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# Railway Age

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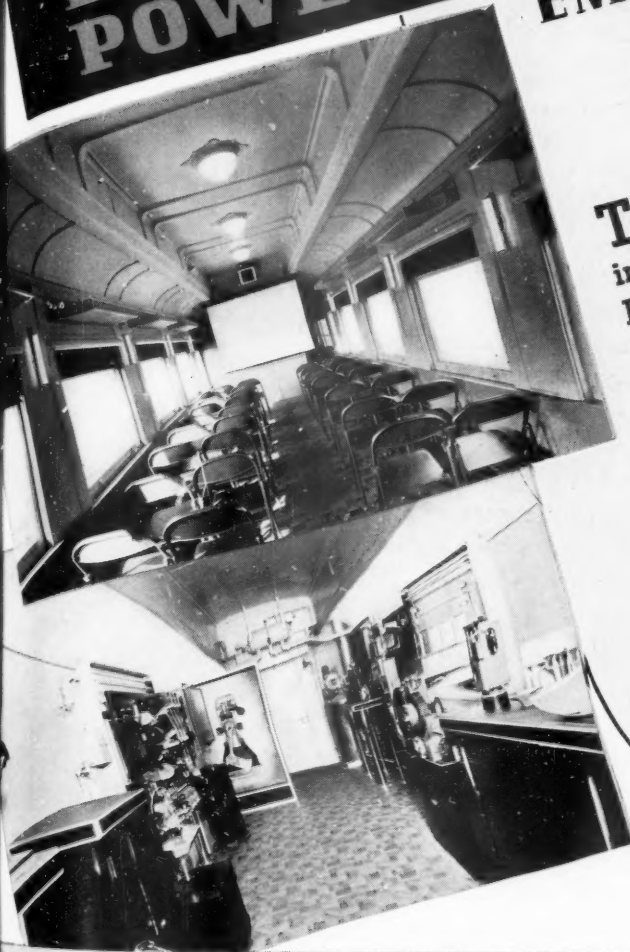
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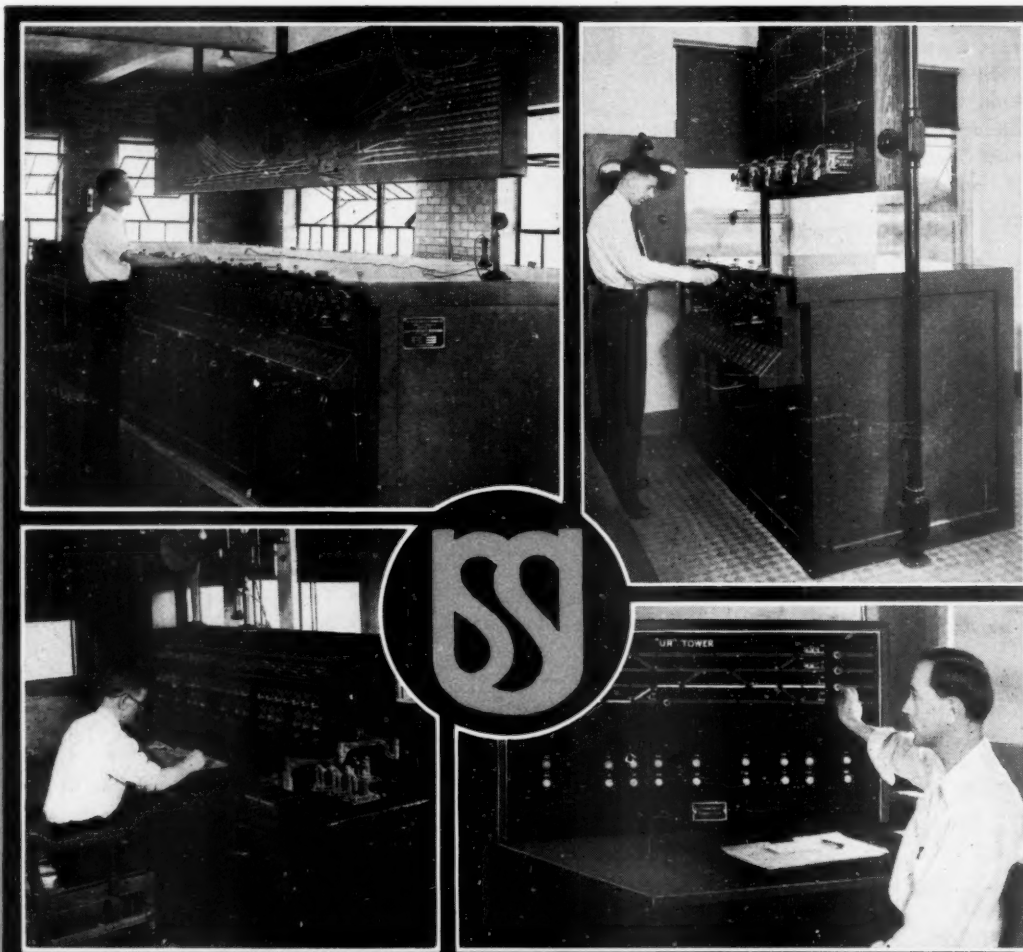
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## RAILWAY AGE

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# What Principle Should Underlie Regulation?

The expedient of federal regulation of economic activity is gaining ever-widening acceptance at a time when, judged by its record, such regulation as we already have has been far from a brilliant success. Originally conceived as a means of holding monopoly in check, regulation (such, for instance, as that proposed for agriculture) is now accepted as a device for regimenting a highly competitive business to give it some of the powers and other attributes of monopoly. Elsewhere (as in the case of toll-free waterways) the federal government intrudes with tax expenditures in behalf of some of the very "big business" enterprises which, in all its other dealings with them, it endeavors to restrict and circumscribe. The federal control over railroad rates certainly serves to restrain the abuse of "monopoly power" as far as the railroads are concerned, but the same control is not infrequently exercised in behalf of interests which are much more "monopolistic" than the railroads, and far richer, too.

### Regulation as a Cure-All

If evils are discovered in private business, then the need for regulation is accepted as proved, and the form which the regulation is to take is assumed to be a question of comparatively minor importance. The notion seems to prevail that any regulation whatever is better than none at all. Consider for a moment the proposed federal regulation of hours and wages of labor. What specifically is this measure designed to accomplish, and what assurance have we that it will achieve those ends alone, and not some others in addition which are quite undesirable?

Suppose, for instance, that, in the laudable desire to put an end to "sweated" labor, the authorities should set the minima at a point where some businesses would have to close down entirely, throwing their employees on relief? It is not our argument that such would be the outcome, but rather that such *might* be the outcome if present muddled and uncritical thinking about regulation continues. Because evils of policy and perfor-

mance are just as possible for regulators as they are for private and unregulated business. Even Soviet Russia recognizes the value of critical attention to the bureaucracy; but there, just as in America, if bureaucrats are criticized, it is usually on the basis of their being "personal devils," rather than with any suspicion that the system itself under which they operate may be faulty in spots.

### Competition a "Yard Stick" for Regulation

In the confusion in thinking in this sector lies our general failure to consider in a logical manner what may be the justification for regulation, and what it may reasonably be expected to accomplish. Having no clear and generally-understood objectives for regulation, and no rational plan for attaining them, it is no wonder that the process has not been wholly satisfactory. When regulation is given a job to do that it cannot possibly perform, then not only does the regulated business lose, but society loses as well, and the regulators by their failure to achieve favorable results put their reputations and their future in jeopardy, quite possibly through no fault of their own. Most of our regulation of business seems to be based on "there-ought-to-be-a-law" thinking. An evil is perceived and, instead of going to the roots of the matter and taking action which would remedy causes, rather than symptoms only, we turn to regulation—a cure which, in some instances, might be compared with decapitation as a remedy for the whooping cough.

We believe that there is a simple principle upon which the whole question of government regulation of business, and the justification for it, rests, and that, if we should bear that principle ever in mind, we should expect a great deal less, and get a great deal more, in social advantage from regulation than we now do. This principle is that government regulation is justifiable only as a substitute for the automatic regulatory force of free competition, where free competition no longer exists; and that, as a corollary, government regulation

will succeed precisely insofar as it limits itself to enforcing those conditions which would be achieved, automatically, if competition did exist in the regulated business.

### Wages Flexible Under Competition

By free competition we do not mean mere business rivalry between a few large firms, such as that prevailing in automobile manufacturing, for instance. We mean rather a condition where the producer has no control whatever of the price of his product, but simply takes what the market offers. He alone cannot affect the market price by withholding his production from the market. He pays the wage prevalent in the labor market (which, under true competition, is unaffected by coercion, either by employers against labor, or by unions or the government in its behalf).

Such free competition in the true sense of the term does not exist in a large part of our national economy today. Such competition is impossible in industries where large-scale machinery is necessary for efficient production; and we are making no argument for "turning back the clock" in the interest of a theoretical ideal. Nevertheless it remains a fact that a freely competitive society is the only self-regulating one, and it is the only society where self-regulation will be automatically exercised to fulfill to the maximum the economic desires of the individuals who go to make up society. In such an economic order, if it were possible of achievement, every man would receive as income the exact equivalent of his contribution to the income of society as a whole. Fluctuations in the general price level would harm no one (save possibly dealers in and miners of gold), because all wages and prices would fluctuate together; and each man, by best serving his own interest, would also best serve the social interest as well.

### What Is Competition?

But the serving of the social interest by serving one's selfish interest ends the moment anyone achieves any degree of control of any market price, or the right to receive a fixed income no matter what turn prices in general may take. Popularly, competition is supposed to exist in many industries where, as a matter of fact, its form is quite attenuated. Where a producer can set a price and "make it stick," adjusting his production to fit that price, then competition, in the sense that it serves as an adequate regulatory device, has departed. Where this happens, the producer has interests which may or may not coincide with the interests of society as a whole.

The general price level falls. Under free competition prices (save that of gold) in every market and the wage level also would fall correspondingly. Production would continue at the same rate as before, and the income of no one (as measured in purchasing power for

goods rather than in money) would be diminished. But, under conditions of partial monopoly, where the producer does have some control over price, when the competitive price level falls, he may find it to his advantage to maintain his prices at the old level, and take up the slack by curtailing production, throwing men out of work. Indeed, because he has to pay a fixed scale of wages imposed upon him by some labor union, his costs may not decline with the competitive price level, and hence he may be forced to maintain prices, with reduced production, and consequently reduced employment, necessarily following.

### What Should Regulators' Price Policy Be?

Since free competition is the automatic regulator of enterprise in the interest of society and since any degree of monopoly power interferes with the effectiveness of the automatic regulatory process, it follows that, to meet the lack, the *primary function of government regulation should be to endeavor to preserve the price relationships which would exist under free competition*; it should, to the best of its ability, endeavor to prevent policies being made which are to the benefit of a particular class in society rather than to society as a whole. Examined in the light of its only logical economic justification, we submit that government regulation of business, and of the railroads in particular, has done little more to serve the interests of our economic system as a whole than unrestrained monopoly itself would have done.

Rates have been held at artificially low levels when general prices would have warranted far higher ones; and, as a consequence, by the resulting impoverishment of the carriers, a relatively high level of rates has had to be maintained when competitive prices fell. The wages paid per unit of labor, largely because of government interference, have been virtually stationary when other prices were downward, thus imposing inflexibility upon the railroads in their most important element of costs, and preventing them from making adjustments in their charges which, in the interest of the better functioning of the economy as a whole, should have been made. The rate regulatory mechanism has served to prevent the railroads from imposing upon the "little fellows" among the shippers, but it has not protected the railroads from pressure on the rate structure by "monopolies" far more powerful than they are, or ever were. (Under free competition, properly so-called, no shipper would be big enough to maintain his own fleet of vessels or trucks.)

Subsidies, furthermore, are quite as much as violation of the automatic regulation of free competition as are monopolies. The government proposes to re-establish a more reasonable relationship in transportation by regulating the railways' rivals, but it has taken no steps whatever to end the subsidies it provides for them—thus leaving a large part of the problem completely untouched.

The *Railway Age* is not opposed to reasonable regulation of the railroads when it is exercised in behalf of the economic well-being of society as a whole, and it concedes the social desirability of some authority (be it nothing more elaborate than the conscience and the intelligence of the leaders who direct business) to take the place of the automatic regulatory force of free competition, wherever that force has disappeared. But we are inclined to the opinion that government regulation thus far has inserted quite as many uneconomical and undesirable inflexibilities into the industrial structure as it has removed; and it is quite apparent to anyone that neither the regulators nor the legislators who have framed the regulatory legislation have been actuated by a consistent philosophy based upon a real understanding of economic phenomena and economic motives.

### Where Danger of "Monopoly" Arises

The threat of "monopoly" to the general economic welfare does not lie primarily, as is popularly supposed, in extortionate prices and unfair rates of profit; but rather in "frozen" prices which refuse to move up and down with the general price level—resulting in an unbalance between "monopoly" and regulated prices on the one hand and those of truly competitive goods on the other. And from such lack of balance depressions and unemployment arise. Regulators seem to conceive their duty primarily to be to keep the regulated business from making too much money, whereas, from the standpoint of the social welfare, their first concern should be to maintain the regulated business in a normal relationship with business in general. And among the "monopolies" which regulators need to take into account, if their work is to be effective in the public interest, are not those of "big business" alone, but those of labor and the taxing authorities as well.

We should like to see the problems and the mistakes of government regulation receive the same critical discussion that the mistakes and evils of unregulated private business have been receiving. Our legislative "doctors" in dealing with private business have developed increasing skill at diagnosis, and have discovered a whole host of new "diseases." Unfortunately, however, their materia medica is the same as that of their predecessors. The fancy modern ailments of business are given the same brand of castor oil with which the railroads have been plied for fifty years, and in ever-increasing doses. Quantity is no substitute for quality in regulation, any more than in anything else. The regulatory authorities generously admit, in general terms, that they have "made mistakes," but the question should be rather: What mistakes? In the enormous grants of power which have, to be specific, been made to the Interstate Commerce Commission during the past half-century, some errors must have crept in, if the law of averages still holds. But what, specifically, are these errors?

Is it not tremendously important that they be dis-

closed and discarded, before all industry is hustled into the patch-work regulatory harness which now encumbers the railroads?

## For Better Rails

If there is any one term that epitomizes the trend of track design, construction and maintenance in recent years it is "refinement." It applies not only to the measures that have been taken to insure greater accuracy in line and surface for higher train speeds, but, if anything, it is even more descriptive of current practices designed to insure maximum longevity of the elements that enter into the track structure.

This trend is especially evident in improvements in the rail joint in the efforts to develop better joint bars and fastenings, in the end-hardening of the rails, and in cross-grinding and surface-grinding of the rail ends. Some of these improvements are the result of gradual development, while others represent innovations of recent introduction, but all of them comprise refinements designed to obtain better results in the exacting service which the rail joint must perform.

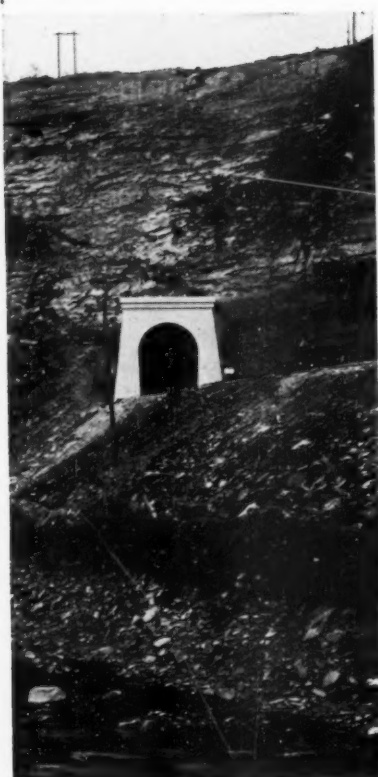
In the face of these evidences of a sincere effort to improve the rail joint it is somewhat of an anomaly that there is little tangible evidence of corresponding efforts to improve the finishing of the rail ends at the mill. The clause of the A.A.R. specifications for rail covering this point states simply that, "They shall be sawed square at the ends, a variation of not more than  $\frac{1}{32}$  in. being allowed and burrs shall be entirely removed."

As this provision has been interpreted as permitting a tolerance of  $\frac{1}{32}$  in. across the base as well as from the top to the bottom of the rail, it is possible in a case where the permissible variations are all additive, to have a gap of  $\frac{3}{32}$  in. between the tops of the heads of two rails when the bases are in contact at one corner. However, judging from observations of new rail in track, even this tolerance limit is not rigidly adhered to, while trackmen have complained for years that workmanship in the removal of fins produced by the saws leaves much to be desired.

It is almost trite to say that the gap between rail ends should be made as small as adequate provision for expansion will permit and that the fit of joint bars is the first essential for their effective functioning, but if rail heads fail to meet by  $\frac{1}{8}$  in. when the bases are in contact, and the joint bars ride on fins or other surface imperfections, much of the efforts at refinement in other directions will come to naught.

In view of the many other problems incident to the making of good rails that have demanded attention in recent years, it is small wonder that this seemingly insignificant point should be neglected, but now that so much attention is being focused on the rail joint, the finish of the rail ends has ceased to be a minor point and should be made the subject of careful study.





A 300-Ft. Tunnel on the Dismal Creek Line Avoided More Than a Mile in Distance and a Number of Heavy Curves

**F**OR the purpose of tapping new coal areas, the Norfolk & Western has extended its lines approximately 42 miles back through the rugged hills of Buchanan county, Va., at a cost of approximately \$4,000,000. It is estimated that the new lines will open up 300 million to 400 million tons of coal for development and, in addition, will afford an outlet for much high-grade timber.

#### Starts Extensive Development

For many years, the Norfolk & Western has looked forward to tapping the vast coal resources of Buchanan county, in the southwestern part of the state and almost directly south of the main line of the road between Bluefield, W. Va., and Williamson. This county, possibly the most rugged in the entire state, with many high mountain ridges traversed by steep winding creeks, was, except for the county seat, Grundy, and a few small communities, practically undeveloped, and presented large difficulties to penetration by railway lines. To reach its vast natural resources, railway lines had to be built. The

# Norfolk & Western Opens New Coal Fields in Virginia

Builds 42 miles of feeder lines through rugged mountainous country in short time, in spite of great difficulties

new line carries the railroad approximately 73 miles in from the main line.

#### New Lines Extend 1928 Project

The N. & W. development began in 1928, when the road took over and reconstructed the Big Sandy and Cumberland railroad, narrow-gage lumber carrier which extended from Devon, W. Va., on the main line of the N. & W., over the mountains to Grundy, Va., a distance of approximately 35 miles. This work, which only partly utilized the narrow roadbed of the old line, involved approximately 2,500,000 cu. yd. of grading, the building of a number of single-track bridges and the construction of 5,600 ft. of tunnels, and cost approximately \$10,000,000. This line, known as the Buchanan branch, was completed in July, 1931. It opened up territory rich in coal and lumber, as well as providing an outlet for Grundy, the largest community in the county, with a population at the time of approximately 800. But, the N. & W. was, even at that time, looking beyond Grundy to the territory south and east, bordering on the Levisa fork of the Big Sandy river, and on Dismal and Garden creeks, including, in all, an area of approximately 250 sq. mi., underlaid almost throughout with seams of coal 3 ft. or more in thickness, and in September, 1935, the railroad was again pushed forward. Reference to the accompanying sketch map will show the scope of the latest program, with its 42 miles of new lines.



The Wye at the Mouth of Dismal Creek—The Railroad Bridges Extend Over Levisa Fork, While the Highway Bridge Spans Dismal Creek

From a connection with the Buchanan branch at Grundy, the line was extended generally south and east, following Levisa fork for a distance of about 6.8 miles to the mouth of Dismal creek. Here, a wye was constructed and the Buchanan Branch extension was continued up Levisa fork, while a second branch was extended up the valley of Dismal creek. The Buchanan Branch extension was continued along Levisa fork for about 5 miles to the mouth of Garden creek and a small community called Hanger. Here, another wye was constructed, with one branch extending up Garden creek for a distance of approximately 3 miles, while another branch was continued eastward along Levisa fork for a distance of approximately 1.7 miles, and was named Hanger spur.

### Lines Follow Waterways

The branch up Dismal creek is approximately 23 miles long and presented by far the most difficult construction work. It follows the narrow, circuitous valley of the creek, hemmed in on both sides by steep, heavily-wooded hillsides, which rise more than 1100 ft. in places. One spur was extended from this line, taking off to the north approximately  $5\frac{1}{2}$  miles from the beginning of the branch and extending generally northward for about  $2\frac{1}{2}$  miles.

While the different lines were designed to open up this undeveloped coal territory generally, each of the lines, at least so far as its terminus was concerned, was to meet a definite objective, this being immediate extensive coal operations. Simultaneously with the construction of the lines, a 3,000-ton tippie was constructed at the end of the Garden Creek line, a 3,000-ton tippie was constructed at the end of Hanger spur, a 2,500-ton tippie was constructed at the end of Long spur, and a 6,000-ton tippie was constructed at the terminus of the Dismal Creek branch. These four operations, in themselves, now fully completed, have a capacity output of 240 cars a day, and represent only a beginning of the development possible in this territory.

### Loaded Movement All Down Grade

One of the most favorable features of these new extensions is the fact that the grades are downward with loaded traffic. On the first part of the Buchanan Branch extension, between Grundy and the mouth of Dismal creek, the line rises on a prevailing grade varying from 0.2 per cent to 0.45 per cent, interrupted only by one short section of 1 per cent grade. The only stretch of level track in this 6.8 miles of line is about 600 ft. long, while the total rise from Grundy to the mouth of Dismal creek is approximately 125 ft.

Continuing up Levisa fork to Hanger, the prevailing grades are somewhat heavier, increasing progressively from 0.3 per cent to a maximum of 1.3 per cent. Up Garden creek, the grades are generally above 1.0 per cent, and, near the end of the line, reach a maximum of 1.7 per cent. At the end of the Garden Creek line, nearly 15 miles above Grundy, the total rise above Grundy is approximately 475 ft., representing an average rise of approximately 31 ft. per mile. On Hanger spur, the maximum grade is 1.05 per cent, except for one short section of 2 per cent grade.

### Difficult Climb Up Dismal Creek

The conditions on the Dismal Creek line as regards grades are similar to those prevailing on the Buchanan branch extension proper, the line being on a continuous upward slope, without a single section of level or



A Sound Roadbed and a Sturdy Track Structure Were Built on All of the Lines

descending grade throughout its entire climb of nearly 23 miles. While much of the grade on this line is under 0.5 per cent, many sections have grades up to 1.0 per cent, and the last  $2\frac{1}{4}$  miles of line involves grades consistently above 1.0 per cent, reaching a maximum of 2.02 per cent. Long spur, extending from the Dismal Creek line, has the heaviest grades of any of the lines, these ranging from a minimum of 1.2 per cent to a maximum of 2.5 per cent.

Coupled with the generally heavy grades on the different lines, all of them have a large amount of curvature, necessitated by the winding character of the valleys followed, and, not infrequently, by the desire to minimize grades through the medium of distance. On the other hand, in spite of the rough character of the terrain followed, maximum curvature on all of the lines,



Sketch Map of the New Coal Feeder Lines in Buchanan County



with the exception of Long spur, was held to 12 deg. On Long spur it was found desirable to raise the allowable curvature to 16 deg., and there are six curves of this degree on this line. In connection with the alignment of the different lines, it is of interest to note that all curves in excess of 2 deg. were spiralled.

As regards the curvature on the different lines, one line is about as crooked as another. The extent of this is seen in the fact that in the 23 miles of the Dismal Creek branch, there are 123 curves with a total of 5,668 deg. of central angle. It is interesting to note also that the longest tangent on this line is approximately 1,500 ft., with only a few others as long as 1,000 ft.

Extensive as is the curvature on this branch, it would have been still further increased if it had not been for the construction of a short tunnel at one point, where the creek, after winding circuitously through a virtual gorge in the mountains, doubled back on itself on the opposite side of a high ridge. Here, the ridge, only about 300 ft. through, was pierced by a tunnel, saving not only many degrees of curvature, but also more than a mile of track construction. The tunnel was holed through solid sandstone and was then lined with 18 in. of concrete.

### New Yard and Engine Facilities

In addition to the lines themselves, it was necessary to construct numerous auxiliary facilities to make the lines fully operative. These facilities include mine-track layouts at five large workings, with a total capacity of 900 cars; two passing sidings on the Dismal Creek branch, one 7,600 ft. and the other 7,200 ft. long; and a yard engine terminal just north of the junction of the Dismal Creek branch with the Buchanan Branch extension up Levisa fork toward Garden creek.

This yard, known as Dismal yard, consists of four tracks, each long enough to accommodate 153 cars. This yard is the assembling point for loaded coal cars coming from the various coal operations on the different branches and spurs to the south and east. Here, the cars are classified and made up into trains for movement to Devon.

The engine terminal consists of seven parallel tracks, served by an N. & W. coal hoist, an N. & W. ash hoist, a 100-ft. concrete inspection pit, and a 20-ft. by 50-ft. shop building enclosed with Ferro-Clad steel sheets. In addition, the terminal is equipped with locomotive water facilities, including a 100,000-gal. steel water tank, capable of being enlarged to double capacity, and two 250-gal. electrically-driven turbine-type pumps.

In addition to these new yard and terminal facilities



Mining Communities With From 100 to 400 New Homes Are Springing Up Along the New Lines

on the new lines, additional facilities were provided on the Buchanan branch proper to take care of increased train operation. These included several long sidings, four new 110-car yard tracks at Weller yard, several miles north of Grundy, and practically a new engine terminal at Weller, including shop, inspection, coaling, ash-handling, sanding and water facilities. These improvements, made necessary by the new coal feeders extended deeper into the county, cost, in themselves, approximately \$500,000.

### Many Construction Problems

The difficulties encountered in constructing the new lines were many and varied, as might be expected from the rugged and isolated character of the country penetrated. In the first place, because of the narrowness of the valleys, mile after mile of the new lines had to be cut through the hillsides, and at numerous places impossible curvature was avoided only by extensive channel changes in the creeks. Another problem was the extensive clearing necessary before actual construction could be started, this work extending over the equivalent of 524 acres, much of which was still covered with virgin growth. In addition to this heavy clearing, approximately 80 acres of roadway had to be grubbed to eliminate stumps in shallow fills.

Added to this extensive preliminary work was the problem of reaching the new line locations with construction equipment and materials. This was not so difficult along Levisa fork, which could be reached quite readily over a relatively improved highway extending



This Five-Span Girder Bridge at the Beginning of Long Spur is Typical of the Bridges on the New Lines





Severe Slides, Requiring Thousands of Additional Yards of Grading and Slowed Up the Work at Many Points

from Grundy to Hanger, but up Dismal creek, access was gained only over little-used mountain roads or trails, almost impassable at places and during certain seasons of the year, these roads leading back to contact with branches of the road's Clinch Valley line further east. At the far end of the Dismal Creek line, the equipment haul over the road was approximately  $6\frac{1}{2}$  miles, while further down the line, the haul varied from 14 to 17 miles.

In spite of the difficulty of getting equipment to the new line, the most up-to-date excavating and grading equipment was employed, including gasoline, Diesel and steam-operated shovels of the caterpillar type, 3 to 11-yd. caterpillar-type dirt wagons,  $1\frac{1}{2}$ -yd. dump-body trucks, and fleets of hauling tractors, equipped in part with bulldozers for spreading operations. During one stage of the work there was a total of 21 shovels on the job.

#### Slides Add to Heavy Grading

The character and extent of the grading required is seen in the fact that the work involved approximately 1,159,000 cu. yd. of common excavation, 412,000 cu. yd.



There are 123 Curves on the Dismal Creek Branch, With Only One Section of Tangent as Long as 1500 Ft.



Eleven Large, Reinforced Box Culverts Were Constructed on the Different Extensions

of loose rock excavation, and the removal of 631,000 cu. yd. of solid rock, largely sandstone. These quantities do not include more than 500,000 cu. yd. of varied excavation involved in slides and channel changes.

The largest of the channel changes was made in connection with the construction of Dismal yard, where, for a distance of approximately one mile, the channel, 80 ft. wide and 12 ft. deep, was moved laterally approximately 100 ft. to make room for the new yard tracks and terminal facilities. This change alone involved approximately 142,000 cu. yd. of excavation.

The largest cuts and fills on the new lines are on the Dismal Creek branch. Here, the largest fill, 40 ft. high, required the placing of approximately 48,000 cu. yd. of filling material. The deepest cut, with a sidehill slope of about 60 ft., required the removal of 24,000 cu. yd.

Slides at many points on the lines were a constant menace and increased materially the total excavation required. The largest of these slides occurred on the Buchanan Branch extension and in the vicinity of Dismal yard. At the latter point, one slide, about 300 ft. wide at the face and 470 ft. up the slope, required the removal of approximately 80,000 cu. yd. of material. Numerous other slides required the extra handling of from 10,000 to 15,000 cu. yd. each.

There are only eight steel railroad bridges on the new lines, all of which are of deck plate girder construction, but there are more than a hundred waterway openings under the tracks, ranging from small pipe to large reinforced concrete box culverts. For the smaller openings, cast iron pipe of 18-in. and 24-in. diameters was used, while for the larger pipe openings, reinforced concrete pipe in diameters up to 65 in. was employed. The largest of the box culverts built is a double box with one 12-ft. by 12-ft. opening, and a second opening 12-ft. by 17-ft.

All of the girder bridges on the lines are multiple-span structures, the longest, with five spans, and an over-all length of approximately 300 ft., carrying the Buchanan Branch extension over Garden creek. One sizeable highway bridge was constructed in the project, this being an eight-span steel and concrete structure, 465 ft. long, extending over two branches of the wye at the mouth of Dismal creek. This bridge has a concrete roadway slab carried on wide-flange steel I-beams, and, as a whole, is supported on concrete abutments and a series of two-column concrete piers.

With a desire to complete the new coal lines at the  
(Continued on page 1014)

## Milwaukee Refrigerator Car for General Service

**T**HE steel refrigerator cars, built by the General American Transportation Corporation for general service on the Chicago, Milwaukee, St. Paul & Pacific embody many new features that represent a departure from the conventional wooden refrigerator car construction. They combine favorable light weight and larger overall refrigeration efficiency, with expected lower maintenance cost and longer life.

The present series of cars embody the background of experience gained in a period of over five years' service tests, first from several small groups of experimental cars, followed by a considerable number of cars similar to the present design, each being an improvement over those previously built.

The following description, together with the table of principal dimensions, gives a general idea of their construction.

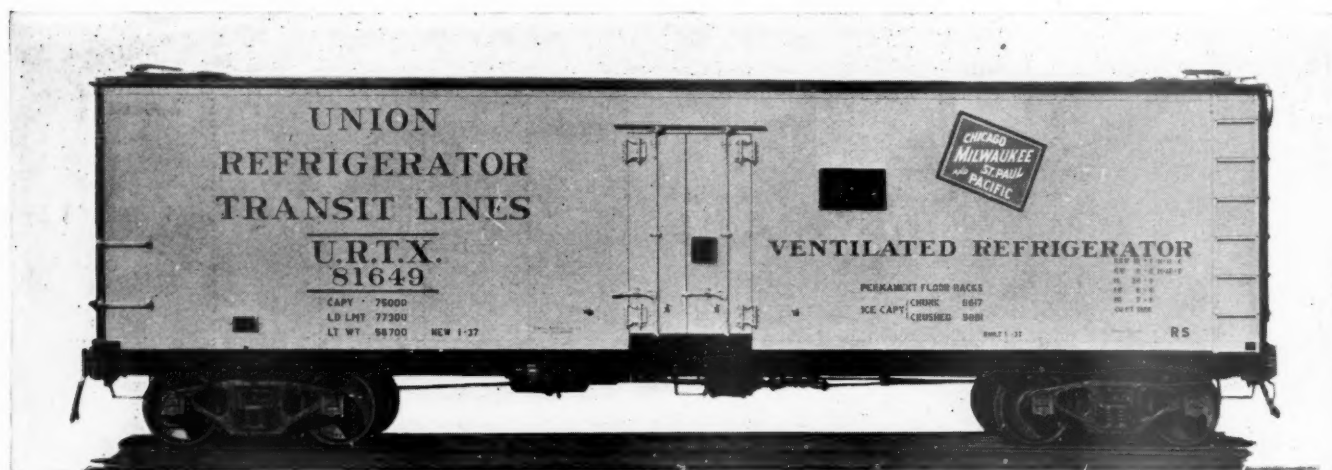
The entire exterior superstructure is steel, with the steel sheathing applied to the sides and ends in such a manner as to impart additional strength to the framing.

The exceptionally strong underframe construction closely follows the latest A.A.R. and A.R.C.I. car design, the A.A.R. Z-section center sill is used with the two sills joined by continuous automatic fusion welding. The bolster center braces are of cast steel and combined as a unit with the rear draft lugs. Striking plates are cast integral with the front draft lugs. The steel superstructure design makes it possible to combine the car body and the underframe in a single unit securely riveted together.

The trucks are 40-ton capacity of a special stabilized shock-absorbing design, used in order to protect the perishable ladings transported in refrigerator cars.

### Special Attention to Insulation

Much consideration has been given to the efficient use of the proper insulation and its application to the car body. There is ample room between the sheathing and lining to apply any combination of desired materials for a general-service car which will keep heat losses at a minimum with an attendant reduction in ice consumption. The tightly sealed all-steel body construction contributes its part to insulation efficiency by preventing air



Light-Weight Refrigerator Car Built by the General American Transportation Corporation for Service on the C. M., St. P. & P.

The roofs are of riveted and welded steel construction, tying together the rest of the car structure. The longitudinal running board welded integrally with the roof sheets and the hatch covers are made of non-skid tread rolled steel. The hatch frames, instead of being made

infiltration. Basket ice bunkers of an improved design provides quick cooling down of the car for loading and also maintains the required low temperature in transit.

The side-door design is a patented feature using a special rubber-cushion door packing, applied to flat surfaces, and provides a tight double seal entirely around each door. This packing has been very successful not only in reducing air leakage around the doors, with consequently more uniform temperature in the car, but also in reducing maintenance expense.

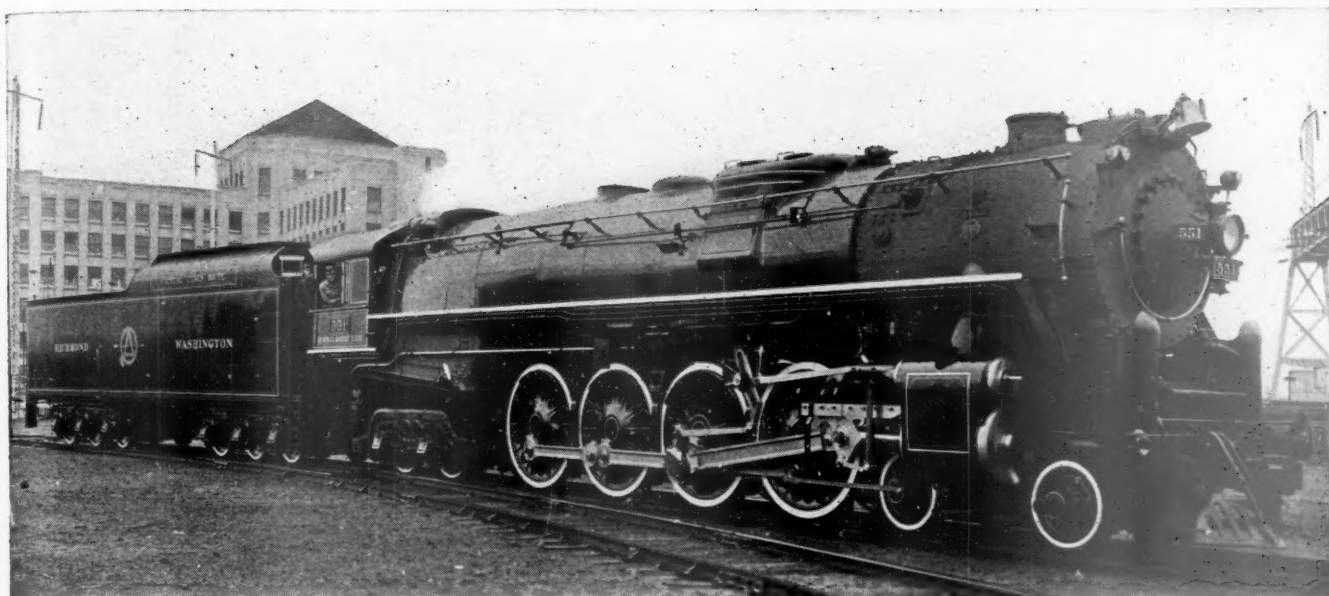
Since all refrigerator cars operate under severely corrosive conditions, it is important that particular attention be given to the painting. An improved painting schedule has been adopted for these cars after considerable research and experimental work. The entire car structure is given a priming coat of a special rust-inhibitive priming paint which provides a tough tenacious undercoat. The underframe, trucks and the inside surface of the steel superstructure are then covered by a heavy coating of water-penetration resistant, emulsified asphalt paint. The exterior of the car body is painted with a bakelite-resin-base synthetic enamel, which experience has proved to be the most suitable for refrigerator-car service.

### Principal Dimensions of Milwaukee Refrigerator Car

Length in side—between bulk heads, ft. and in.	32-9 $\frac{3}{8}$
Width inside, ft. and in.	8-4 $\frac{3}{8}$
Height inside—floor to ceiling, ft. and in.	7-9
Height inside—floor racks to ceiling, ft. and in.	7-3
Length—inside to inside of coupler knuckles, ft. and in.	44-2 $\frac{1}{4}$
Distance between truck centers, ft. and in.	30-8 $\frac{1}{4}$
Width over side sheets, ft. and in.	9-5
Extreme width, ft. and in.	10-2 $\frac{1}{2}$
Height—top of rail to floor, ft. and in.	4-2 $\frac{1}{4}$
Height—top of rail to running board, ft. and in.	13-2
Width of side door opening, ft. and in.	4-0
Height of side door opening, ft. and in.	6-6 $\frac{1}{2}$
Weight, light, lb.	58,700
Cubical capacity, cu. ft.	2,125
Capacity of ice bunkers, cu. ft.	230
Capacity of ice bunkers, chunk ice, lb.	8,617
Capacity of ice bunkers, crushed ice, lb.	9,881

of wood lined with galvanized sheets, are pressed from one piece of steel, welded and riveted to the roof sheets so as to make them an integral part of the structure.





One of Five 4-8-4 Type Locomotives Built for the Richmond, Fredericksburg & Potomac by the Baldwin Locomotive Works

## R. F. & P. 4-8-4 Type Freight and Passenger Locomotives

Baldwin-built motive-power units for service on the Richmond-Washington line have 77-in. drivers and 66,500-lb. tractive force

**T**HE latest addition to the motive-power equipment of the Richmond, Fredericksburg & Potomac is a group of five locomotives of the 4-8-4 type built by the Baldwin Locomotive Works. These locomotives have driving wheels 77 in. in diameter and are designed for either freight or passenger service. The tender-tank capacity of 20,000 gallons is sufficient to enable them to operate on through runs without making stops for water.

The new locomotives are designed to operate on curves as sharp as 18 deg. and to meet a height limit of 15 ft. 6 in. and a width limit, under the cab windows, of 11 ft. 1 in. The maximum allowable weight per pair of driving wheels is 69,000 lb. With a rated tractive force of 66,500 lb. the ratio of adhesion is about 4.12. One of the five locomotives is equipped with a trailer booster, capable of developing an additional 16,200 lb. tractive force, and the remaining locomotives are designed so that boosters can be subsequently applied.

### Boiler and Boiler Accessories

The boiler has a conical ring in the middle of the barrel, with a maximum outside diameter of 98 $\frac{1}{4}$  in. Nickel steel, having a minimum tensile strength of 70,000 lb. per sq. in., is used for the shell courses, wrapper sheet (roof and sides), back head, and all inside and outside welt strips and liners. The firebox seams and the seam around the firedoor opening are welded, and all

tubes and flues are welded into the back tube sheet. There are two syphons in the firebox and one in the combustion chamber. The working pressure is 275 lb. and the boiler was tested under a water pressure of 344 lb. and a steam pressure of 330 lb.

The boiler accessories include Firebar grates and the Standard type HT stoker, with the stoker engine on the tender. The A.A.R. self-cleaning front-end arrangement is applied to three locomotives and two are equipped with the Cyclone front-end arrangement. The stack has an internal diameter of 23 in. and exhaust nozzles having diameters of 7 $\frac{3}{4}$  in., 7 $\frac{7}{8}$  in. and 8 in. are furnished, provision being made for boring the nozzles out to a 10-in. diameter if desired. The superheater is a Type E, and an American multiple front-end throttle is built into the header. The feedwater heater is a Worthington, No. 5-Sa, of 9,000 gallons capacity, with the cold-water pump on the left side of the locomotive, back of the rear truck, and the hot-water pump mounted on the left-hand side of the smokebox.

### Engine Bed and Running Gear

A one-piece bed, furnished by the General Steel Castings Corporation, with air reservoirs, cylinders and back cylinder heads cast integral, is used in this design. The pistons are steel castings of the Z-type, and the guides are of the multiple-bearing type, with tinned surfaces.



Bearing areas are so proportioned that the bearing pressure of the crosshead on the guide does not exceed 35 lb. per sq. in. Elfur iron is used for the cylinder and steam-chest bushings, the piston bull rings, the steam-chest valve bull rings and packing rings, and also for the stationary bushings on the main-rod back ends and the middle connections on the side rods. The rods are Standard Steel Works forgings, machined and polished. Walschaert valve motion is used, and is controlled by a Lewis Type A power-reverse gear. The valves have a steam lap of  $1\frac{7}{16}$  in. and an exhaust clearance of  $\frac{1}{4}$  in. They are set with a maximum travel of  $7\frac{1}{2}$  in. and a lead of  $\frac{1}{4}$  in., and cut-off takes place, in full gear, at 82.6 per cent of the stroke.

Baldwin disc driving-wheel centers are used on these locomotives. The centers are of special Double-Anchor high-tensile steel, cast by the Standard Steel Works. The Alco lateral cushioning device, arranged to provide a lateral movement of  $\frac{1}{2}$  in. on either side, is used on the leading pair of drivers.

Baldwin bearing metal is used for the rods and also for the driving, engine-truck trailing-truck and tender-truck boxes. The American Steel Foundries roller-bearing unit is used on the front engine truck.

#### Miscellaneous Accessory Equipment

A mechanical lubricator on the right-hand side, operated from the top of the combination lever, has four feeds to the guides, four to the cylinders, two to the

#### General Dimensions and Weights of the R. F. & P. 4-8-4 Type Locomotives

Builder .....	Baldwin Locomotive Works
Type of locomotive.....	4-8-4
Road class .....	16-48-2/4-E, 106
Road numbers .....	551 to 555
Date built .....	1937
Service .....	Passenger and fast freight
Rated tractive force, engine, 85 per cent, lb.....	66,500
Rated tractive force with booster, lb.....	82,700*
Weights in working order, lb.:	
On drivers .....	277,245
On front truck.....	86,725
On trailing truck.....	102,070
Total engine .....	466,040
Tender .....	376,900
Wheel bases, ft. and in.:	
Driving .....	20-0
Engine, total .....	47-0
Engine and tender, total.....	97-2 $\frac{1}{4}$
Driving wheels, diameter outside tires, in.....	77
Cylinders, number, diameter and stroke, in.....	2-27 x 30
Valves, piston type, size, in.....	12
Maximum travel, in.....	7 $\frac{1}{4}$
Boiler:	
Steam pressure, lb.....	275
Diameter first ring, outside, in.....	87 $\frac{3}{4}$
Firebox length, in.....	144 $\frac{5}{16}$
Firebox width, in.....	96 $\frac{1}{4}$
Tubes, number and diameter, in.....	73-2 $\frac{1}{4}$
Flues, number and diameter, in.....	205-3 $\frac{1}{2}$
Length over tube sheets, ft. and in.....	21-0
Fuel .....	Bituminous
Grate area, sq. ft.....	96.3
Heating surfaces, sq. ft.:	
Firebox and combustion chamber.....	418
Arch tubes .....	19
Syphons .....	114
Firebox, total .....	551
Tubes and flues .....	4,823
Evaporative, total .....	5,374
Superheating .....	2,093
Comb. evap. and superheat.....	7,467
Tender:	
Style .....	Rectangular
Water capacity, U. S. gal.....	20,000
Fuel capacity, tons.....	22
Trucks .....	Six-wheel

\* Only one of five locomotives equipped with booster.

steam chests, one to the air pump, one to the hot-water pump, and one to the trailer truck. A two-feed hydrostatic lubricator has one feed to the stoker engine and one feed blank, except on the booster-equipped locomotive, on which the second feed is connected to the booster engine.

The air-brake equipment is arranged for the applica-

tion of the Union Switch & Signal Company's two-speed continuous inductive automatic train control and train stop. The limiting speeds are 50 miles an hour in freight service and 75 in passenger service. The front engine truck is braked, as well as the drivers and tender trucks.

The tender frame is a one-piece steel casting of the water-bottom type, with the stoker support cast integral. The forged-steel tender-truck wheels and axles were supplied by the Standard Steel Works.

Particular attention has been given the appearance of these locomotives, and the finish and paint work, which includes polished machinery parts and a certain amount of color, are most attractive.

The locomotives are named after noted Confederate generals of the Civil War, the numbers and names being as follows: No. 551, General Robert E. Lee; No. 552, General T. J. Jackson; No. 553, General J. E. B. Stuart; No. 554, General A. P. Hill; No. 555, General J. E. Johnston.

The principal dimensions and weights of these locomotives are shown in the accompanying table. The locomotive illustrated is the General T. J. Jackson, No. 552.

## Norfolk & Western Opens New Coal Fields in Virginia

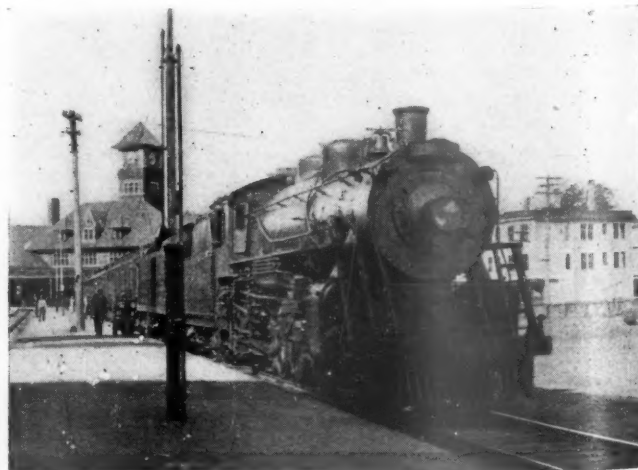
(Continued from page 1011)

earliest possible date, construction was pushed through-out. As a result, in spite of the many difficulties and set-backs encountered, the new lines were completed and put in service on November 1, 1936, approximately 14 months after ground was first broken. All track was laid with 130-lb. relay rail, securely anchored, and with new treated ties, fully tie plated. All of the lines were ballasted with at least a foot of gravel or cinder ballast.

These lines were laid out and constructed under the general direction of W. P. Wiltsee, chief engineer of the Norfolk & Western, assisted by A. B. Stone, bridge engineer, in charge of bridge design, and E. H. Roth, assistant engineer, in charge of operations in the field. The resident engineers on the new work were Roscoe Porter, C. J. French, and R. S. Kerfoot.

The general contractors who shared in the various parts of the project were Haley, Chisholm & Morris, of Charlottesville, Va.; W. W. Boxley & Co., of Roanoke, Va.; Boxley Brothers Company, of Orange, Va.; Sturm & Dillard Company, of Columbus, Ohio; and Morris, Gray & Hunter, of Roanoke.

\* \* \*



A Canadian National Train at Portland, Me.

# Superintendents Meet in Chicago

Interesting addresses, committee reports and discussion feature forty-third annual session

**O**PERATING problems incident to fast freight and passenger service, getting cars through terminals, local station operation, fuel conservation, safety, merchandise handling and other kindred operating subjects were discussed at the 43rd annual meeting of the American Association of Railroad Superintendents in Chicago on June 8, 9 and 10. This meeting, with 157 members in attendance, was presided over by J. J. Brinkworth, president (assistant superintendent, New York Central, Buffalo, N. Y.)

In addition to the consideration of five committee reports, the convention was addressed by Carl R. Gray, president of the Union Pacific, who spoke on the problems of a superintendent; Col. R. S. Henry, assistant to president, A.A.R., who discussed public relations; C. H. Dietrich, executive vice-chairman, Freight Claim division, A.A.R., who spoke on loss and damage prevention; and E. J. League of the Bureau of Explosives, who warned of the dangers in handling that commodity. R. E. Woodruff, operating vice-president of the Erie, and D. S. Farley, assistant general manager of the Atchison, Topeka & Santa Fe, also addressed the convention from the floor in brief remarks during the discussion of the committee reports.

At the closing session of the convention, W. A. Aiken, Jr., superintendent of transportation, Richmond, Fredericksburg & Potomac, Richmond, Va., was elected president of the association for the coming year. Other officers elected were: First vice-president, W. L. Fox, general superintendent, Belt-Chicago & Western Indiana, Chicago; second vice-president, W. J. Warnick, superintendent, Toronto, Hamilton & Buffalo, Hamilton, Ont.; third vice-president, J. W. Graves, superintendent, Erie, Hornell, N. Y.; fourth vice-president, C. B. Pettigrew, superintendent, St. Louis Southwestern, Pine Bluff, Ark.; and secretary-treasurer, F. O. Whiteman, St. Louis, Mo. (re-elected).

P. L. Gaddis, district superintendent, Florida East Coast, Miami, Fla., and C. P. Fisher, superintendent, Pennsylvania, Chicago, were elected directors for three-year terms, and F. B. Whitman, assistant superintendent, Chicago, Burlington & Quincy, Creston, Iowa, was elected a director for a one-year term to fill a vacancy. As usual for the past several years, Chicago was selected unanimously as the meeting place for next year's convention which will take place in June on dates to be specified later.

The superintendents were welcomed to Chicago by J. T. Gillick, chief operating officer, Chicago, Milwaukee, St. Paul & Pacific, who, in outlining the importance of the superintendent's job, cited pertinent examples from his own experience in that position. Mr. Gillick also recommended that the superintendents study the relations between the operating and the maintenance departments in



order to avoid interference in the work of these departments.

In presenting his address as president of the association, Mr. Brinkworth called attention to the necessity of railway officers working against the pending punitive legislation that, if enacted, will materially increase operating costs and serve no good purpose. He urged that the superintendents put all the facts before their local legislative representatives.

## Six Committee Reports

W. L. Fox, general superintendent of the Belt Railway of Chicago and the Chicago & Western Indiana, and chairman of a committee reporting on getting cars through terminals, presented the report of that committee. This report called attention to the lack of efficiency resulting when obsolete road engines are used in yards where they are not suitable. The replacement of several small locomotives by a few large ones was recommended as necessitating fewer movements and less congestion in yards. The report also included comparisons between Diesel and steam power for yard work, which aroused lively discussion. Yard design for operating efficiency, proper classification and efficient handling of paper work were also discussed in the report.

A committee report on modernizing the handling of l.c.l. freight was presented by Chairman P. M. Shoemaker, superintendent freight transportation, New York, New Haven & Hartford. This committee sent a questionnaire of 22 questions to 40 transportation officers of the larger merchandise carriers, and prepared an analysis of their replies, which caused the committee to recommend that the railroads consider the use of truck transportation in merchandise handling; that rates seem to be a most important factor in attracting business; that, while fast schedules are advisable, dependability should not be subordinated. The report also dealt in detail with the importance of heavier loading of merchandise cars.

Chairman E. G. O'Brien, assistant to general superintendent transportation, Canadian Pacific, presented a report on the operation of local stations. This report con-



tained a statistical formula that has proved valuable in measuring efficiency at local stations, and discussed the necessity at this time of increasing forces to study station organization carefully. The effect of highway competition on local station revenues, and also on the morale of employees at such stations was discussed in detail, as well as supplementary highway service performed by railway subsidiaries.

The report of the committee on operating problems of fast freight train service was presented by Chairman C. E. Olp, superintendent, New York Central. The report stressed the importance of educating dispatchers to modern service needs, and recommended closer co-operation between divisions to insure prompt dispatch through terminals. Underground pit inspection of cars to avoid delays in hump yards was also discussed in detail.

S. H. Fulkerson, assistant superintendent, Louisville & Nashville, read the report of a committee of which W. E. Lamb, general superintendent, Missouri Pacific, was chairman, and which dealt with the operating aspects of local passenger train service. This report discussed head-end work in detail and also described how co-ordinated rail-bus services have solved many of the problems referred to. Air conditioning, increased comfort generally, superior safety and low excursion rates were cited as reasons for the upturn in local passenger travel.

The report of the committee on fuel conservation, of which C. J. Connett, superintendent, Chicago, Burlington & Quincy, was chairman, was read by O. R. Teague, superintendent, Seaboard Air Line. This report, after reviewing the general subject as it relates to the superintendent, gave 54 items of operation that are productive of fuel savings. These dealt with the details of yard operation, the education of firemen and enginemen, heavier loading of cars, the elimination of train stops, supervision of stationary power plants, etc.

Vice-Chairman C. H. Lee, superintendent, New York, Chicago, & St. Louis, presented a report on the superintendent and safety, which charged the superintendent with direct responsibility for accidents on his division not chargeable to equipment or track defects. The report cited a sample set-up of educational safety meetings that may be held to cover the situation thoroughly and recommended unremitting and watchful attention as the best safety measure.

These committee reports and the discussions thereon will be abstracted in succeeding issues of the *Railway Age*.

### Public Relations Work

Col. Henry described the public relations campaign in which the A.A.R. is at present engaged. The success or failure of the campaign depends, he said, upon its decentralization and upon the manner in which it is supported and supplemented by the officers and employees of the individual railroads. Public relations, he explained, has nothing mysterious about it, consisting merely of the contacts of all people employed by the railways with all other people in the country.

He pointed out that the basic transportation of this country is and must forever be on parallel steel rails. We live on a vast continent, he said, most of which can only be served by land transportation. Rail transportation may not be the best land transportation for all purposes, but there is nothing that can do the average job of land transportation, under all conditions and all weathers, as well as the railway. Only on the rails can heavy ton-

nage be hauled, and this is predominantly a heavy tonnage continent.

Col. Henry pointed out that the so-called "railroad problem" is caused by the two directly conflicting transportation policies of the government. Other forms of transportation are subsidized, protected and fostered, while the railways are harried and hampered at every turn, and taxed almost out of existence. The expenditures on the waterways, for example, reach such fantastic figures that only a prodigal government could afford to sink such huge sums into such an uneconomical form of transportation. He closed his remarks by requesting that the superintendents do everything in their power to put the facts before the public.

### Handling Explosives

E. J. League of the Bureau of Explosives stated that, for the tenth consecutive year, large quantities of explosives had been handled by the railways in this country without the loss of a single life or a cent of property damage. He warned the superintendents, however, that while this was an extremely good record, it was caused by good luck, since, in 1936 alone, there were 55 carloads of explosives that reached their destination in highly dangerous condition, an increase more than 100 per cent over 1935. In each of these cases, the stage was all set for a serious explosion, Mr. League said, and only unbelievable good fortune prevented a huge loss of life and much property damage.

He cited almost unbelievable cases of rough handling of cars loaded with dynamite, for example, and numerous instances of flagrant violations of the rules governing the handling of explosives. If these are continued, he said, it is only a question of time before a serious explosion will take place. He reviewed the principal rules governing the handling of explosives and requested that the superintendents familiarize themselves and all of their officers and employees with these rules, so that these hazards may be eliminated.

On behalf of W. S. Topping, chief of the Bureau, he extended an invitation to the association to form a committee to study the present explosive rules and to give the Bureau suggestions as to possible changes, and President Brinkworth announced that such a committee would be formed.

### Freight Claims

C. H. Dietrich, executive vice-chairman, Freight Claim division, A.A.R., stated that the loss and damage bill rose from an approximate average of 15 million dollars a year during the light traffic years to 21 million in 1936, of which more than 14 million dollars represented damage alone. This huge expenditure could have been materially reduced if everyone connected with freight handling had been instructed properly.

He said that coupling cars at undue speeds was the principal source of damage to the lading, while the failure of station forces to load freight properly and stow and brace it in the cars also produced much damage. This latter factor was proved responsible for large amounts of damage, both apparent and concealed, by a recent survey made by the freight claim division.

As to loss of shipments, Mr. Dietrich said that the principal reason was the acceptance of freight either illegibly marked, improperly marked, or marked with tags or labels that become easily detached in transit.

"There are other features," Mr. Dietrich said, "such as supplying proper equipment, the protection of perishable freight train accidents, thefts, errors, etc., but the



three items mentioned account for more than two-thirds of the loss and damage account. They are susceptible to correction and need only perseverance and determination on the part of a united body of operating officers, such as are here assembled, to control them. If these three outstanding causes are under reasonable control, a long step forward toward improved rail service and a normal loss and damage account will have been taken."

Mr. Dietrich also distributed to the members a copy of the latest pamphlet of the freight claim division, entitled: "The Importance of Good Switching."

## Carl R. Gray's Address

The luncheon on Tuesday was a tribute to the esteem in which Carl R. Gray, president of the Union Pacific, is held. Mr. Gray, who is retiring this fall, was greeted by an audience of more than 350 people, including, in addition to the superintendents, most of the executives of the Chicago railways, as well as executives from other parts of the country, who were in Chicago attending labor conferences.

Presented to the association by S. T. Bledsoe, president of the Atchison, Topeka & Santa Fe, Mr. Gray spoke as follows:

When I began railroading, we had no conception of the modern protection thrown around railroad operation. Years passed before I saw a fixed signal. All lines were operating freight trains without the protection of air brakes, and it was in the old link and pin days. There was no such thing as standard rules. Each railroad had its own form of train order. A freight train was a special, and the first order I ever took said: "Engine 39, Conductor Woolem, Engineer Penny, will run as a special freight train from Rogers to Fairview, avoiding regular trains, whistle at all curves and keeping sharp lookout for hand-cars."

### The Superintendent's Job

The superintendent is practically the backbone of railroading, certainly he is an essential vertebra in that backbone. There are unusual opportunities open to him. A railroad is, after all, run for business, and business can be secured in the greatest variety of ways. Human nature is exactly the same; whether it is an employee, an officer or the public, attention and consideration are the essence.

A superintendent does not do his full job when he puts up a fine, clean, effective job of operation; if he stops at that he is missing the vital spark, and that is what we now cover by a rather general term of "public relations." Handling his work as he does in such an intimate way, he should have an acquaintance with the shippers and people on his division, as intimate as it can be made; and the more intimate, the more valuable. It does not altogether suffice now to do a good job; it must also be understood that it is a good job.

No one succeeds by decrying the other fellow's work. In the public mind, the railroads are one, and if your neighbor on a competitive railroad puts up a bad job of railroading and you can help him, you do yourself an injustice and the business an injustice if you don't try to do it.

Formerly, if some railroad was in trouble, the mental attitude was usually to make a shrewd appraisal to see what advantage your railroad could get out of the situation, entirely overlooking the fact that the public knows no difference between the A. B. C. and the X. Y. Z.,

and a railroad failure on any is a railroad failure that reflects on all. That was learned during the war, and since Federal control, we have come nearer to having a unified, national organization, throwing help from one side to the other, endeavoring to aid and to prevent congestion, power shortage and car shortage.

An acquaintance on the part of the division superintendent at each station is a fine thing. Pick out a bellwether in each town, no matter how small, and keep that acquaintance alive. You don't know when you are going to need it, and need it bad. You can always have somebody there you can talk to. Ordinarily it is the absence of information that causes difficulty, something you can straighten out by personal explanation to a friend, and get him to interpret you and your railroad and your service. Get the public to understand some of the difficulties that surround you, some of the things you have to overcome; you will find that their appreciation of what you are doing is instantaneous, and that you get a sympathetic reaction that you never get otherwise.

### Labor

I participated in the creation of the first adjustment board; when the railroads were taken under Federal control, Mr. McAdoo undertook a rather heavy job when he notified the railroad employees that under no circumstances were they going to be permitted to strike. They came to Washington and talked with him and with me, and they told him that they were law-abiding, but that they wanted him to understand that he had taken out of their hands any opportunity for ultimate satisfaction, because, they said, "If what you order here is to be observed (and it will be) then when we have carried the matter to the chief operating officer of a line and he doesn't give us what we consider to be justice or fairness, we are powerless, for today, if we want to, we can suspend work."

He asked me what I thought about it and I said, "They are absolutely right. During this emergency you take that right away from them. You have got to supply something in its place." Out of that, taking a leaf from the experience of the board which interpreted the first eight-hour law, we created the first board.

My experience in Washington was that the labor people blue-penciled every case carefully before it was brought to the adjustment board. They used their judgment mercilessly as to whether or not the case had better than an even chance of a favorable decision. The railroad officers were not so careful; in some cases they had lost their temper in the first place, action through the successive offices had been merely support of an officer, and the record came to Washington in desperate shape. Even with that, up to the time I left Washington, which was two months after the Armistice, there had been something over 200 cases decided by that Board No. 1, unanimously.

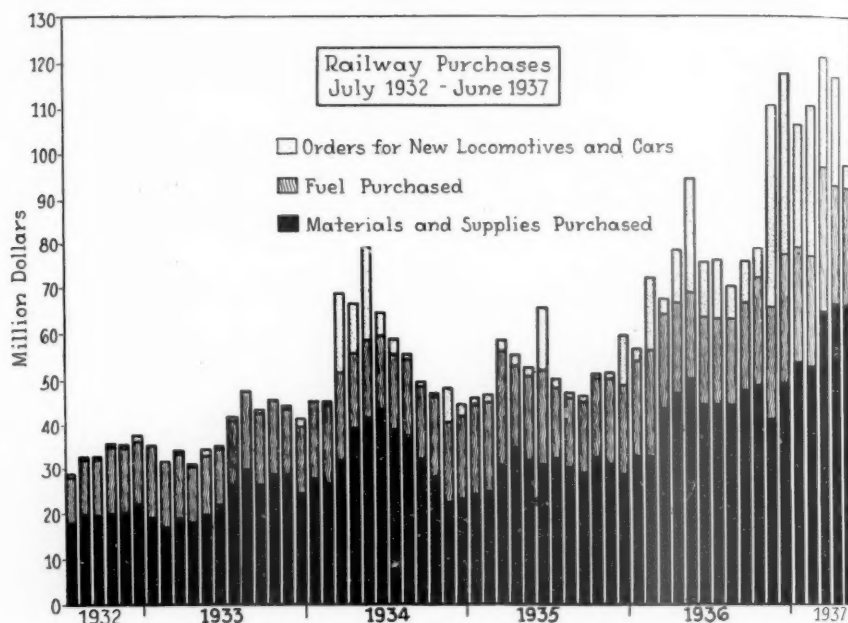
We have contracts with some kind of a labor organization in practically every line of activity on the railroad. Those contracts should be sacredly observed. If the terms of a contract call for a certain specified procedure, that procedure should be followed religiously. We can't chisel on a contract and expect the other fellow not to chisel. In some cases embarrassment is caused to the management representatives on the adjustment boards by the lack or the failure on the part of subordinate officers not only to live up to the spirit but to the letter of the agreement which they have made.

Six of us among the railroad executives have a pretty hard time trying to deal with the labor executives' or-

(Continued on page 1022)

# \$552,000,000 of Railway Buying in Five Months

\$148,000,000 more for manufacturers despite temporary lull in equipment orders—Still much deferred purchasing



Railway Purchases Month by Month July, 1932, to June, 1937

**W**HILE railway wage problems, legislative difficulties, industrial strikes and delays in obtaining deliveries of orders on builders' books have cut down the lead of railway buying over the previous year's figures, aggregate purchases of equipment during the first five months of this year were ahead of the corresponding totals in any year since 1929, and total purchases from manufacturers were 55 per cent larger than the corresponding totals last year, according

from manufacturers—a total of \$419,000,000 of materials and new equipment from manufacturers. The remaining purchases, totaling \$133,500,000, went for fuel. These totals are exclusive of materials furnished by contractors of railway construction.

## 55 Per Cent Gain for Manufacturers

Purchases of materials and supplies from manufacturers in the five months were larger by approximately \$95,000,000, or 44 per cent, than in the first five months of 1936, and were within approximately \$74,000,000, or 18 per cent of the same period of 1930. Buying of new locomotives and cars from equipment builders was larger by approximately \$53,000,000, or 91 per cent, than in the first five months of 1936, and larger by about \$11,000,000, or 10 per cent, than in the same period of 1930. Purchases of both materials and equipment from manufacturers were larger by \$148,000,000, or 55 per cent, than in the first five months of 1936, and within approximately \$67,000,000, or 22 per cent, of the corresponding total in 1930. The combined purchases of supplies and equipment from manufacturers for the five months were \$325,000,000 larger than the corresponding total in 1932, when buying was at its lowest, but were still below the five months' total of 1929 by \$215,000,000, or 30 per cent. From present indications, the Class I railroads will spend \$215,000,000 more this year for supplies, exclusive of equipment, than in the 12 months of 1936.

## Equipment Orders Decline

Equipment buying in May was down to \$5,000,000, as compared with \$25,000,000 in March and April, \$58,000,000 in February and \$26,000,000 in January. This

### Purchases of Supplies and Equipment from Manufacturers—5 Months\*

	Materials† received from manu- facturers (000)	Equipment ordered from manu- facturers (000)	Total from manu- facturers (000)	Fuel (000)	Total including fuel (000)
1929.....	\$406,309	\$227,690	\$633,999	\$146,791	\$780,790
1930.....	375,089	100,682	475,771	138,511	614,282
1931.....	339,000	11,904	350,904	107,222	458,126
1932.....	127,000	1,808	128,808	82,700	211,508
1933.....	92,132	2,340	94,472	71,425	165,897
1934.....	167,535	49,924	217,459	88,461	305,920
1935.....	149,050	7,757	156,807	103,750	260,557
1936.....	212,460	58,406	270,866	108,592	379,458
1937.....	307,519	111,430	418,949	133,432	552,381

\* Subject to revision.

† Includes rail and forest products.

to figures which have been compiled by the *Railway Age*. For the first time in six years, the summary also shows, railroads in the aggregate are spending as much per dollar of their gross earnings as in 1929 for materials and supplies, but they have accumulated a billion-dollar deficiency in buying since 1930.

From the best data available at this time, railway purchases in the first five months of this year are estimated to have totaled approximately \$552,000,000, including \$111,430,000 for cars and locomotives ordered from builders and \$307,500,000 for materials purchased

slackening of equipment buying will continue through June, according to present data. The lull follows a period of equipment buying which has clogged building

#### Purchases of Material, Exclusive of Equipment—5 Months\*

	Fuel (000)	Crossties (000)	Other material (000)	Total (000)	Total less fuel (000)
1937					
January .....	\$26,032	\$3,898	\$46,535	\$79,620	\$53,588
February .....	26,160	3,389	45,067	78,508	52,348
March .....	30,598	4,975	55,755	97,467	66,869
April .....	25,641	6,433	54,759	92,856	67,215
May .....	25,000	6,500	55,000	92,500	67,500
Five months .....	\$133,432	\$25,196	\$257,117	\$440,951	\$307,519
1936					
January .....	\$21,859	\$3,027	\$29,656	\$55,649	\$33,790
February .....	24,355	2,371	29,146	58,298	33,943
March .....	22,304	3,312	36,611	66,435	44,131
April .....	20,626	3,867	39,553	69,550	48,924
May .....	19,447	4,112	41,859	71,118	51,671
Five months .....	\$108,591	\$16,689	\$176,826	\$321,051	\$212,460

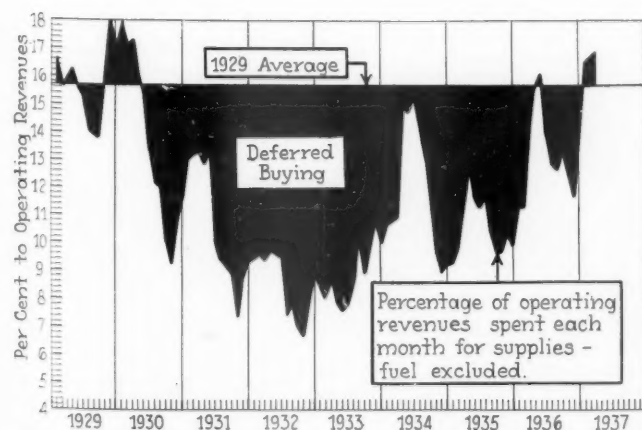
\* Subject to revision.

plants, but, judged by all statistical indicators, the orders are still insufficient to prepare the railroads to meet the heavy increase in freight traffic that is expected this fall.

Slackening in the buying of materials and supplies has been less noticeable than in buying of equipment. In April, the last month for which comprehensive data are available, rail purchases totaled \$6,002,000, as compared with \$6,183,000 in March and \$4,000,000 in February. Tie buying totaled \$6,435,000, as compared with \$4,975,000 in March and \$3,390,000 in February; and miscellaneous materials for repairing cars and locomotives and structures totaled \$54,730,000, as compared with \$55,750,000 in March and \$45,000,000 in February. At this writing, aggregate purchases of materials in May will probably be shown not to have exceeded but to have equalled the buying in April. The effect of labor disturbances in industry is adverse, both by slowing up commerce from which railroads obtain their revenues and because it injects uncertainty into work plans. This situation is further complicated by the attention that the railroads have been required to give to their own labor and legislative problems. However, carloadings and earnings are holding up and the need for heavy maintenance operations is pressing in all directions.

#### Some Roads Back to 1929

The purchasing on numerous roads is now back where it was in 1929 or before. April expenditures on the



Railway Purchases of Materials and Supplies, Exclusive of Fuel and Equipment, From Manufacturers—A Comparison on the Basis of the Percentage of Monthly Purchases to Monthly Operating Revenues

Central of Georgia for materials and fuel, exclusive of equipment, amounted to \$335,000, an increase of 23 per cent over January, 1930. The supply bill of the Chicago & Eastern Illinois in April, amounting to \$1,861,000, was a 5 per cent gain over January, 1930. There were corresponding increases of 20 per cent on the New Haven; 5 per cent on the Baltimore & Ohio; 10 per cent on the Chesapeake & Ohio; 20 per cent on the Chicago, Burlington & Quincy; 50 per cent on the Chi-

#### Equipment and Rail Orders January 1 to June 12, 1937†

	Loco- motives	Cars Freight Passenger	Tons rail
Aliquippa & So. ....	2		
Alton & Sou. ....	1		750
A. C. L. ....	12	700	30
A. T. & S. F. ....	1*		52
Bang. & Aroos. ....	5		7
B. & O. ....		4,000	
Birm. Sou. ....		25	
B. & M. ....			20
Camb. & Ind. ....			350
Canton R. R. ....	1*		8
Cent. of Ga. ....		600	8
C. & O. ....		75	13
C. B. & Q. ....		25	6
C. G. W. ....		200	
C. & I. M. ....	2	200	
C. & N. W. ....	9	1,150	23
C. R. I. & P. ....	10*		10
C. W. Pul. & Sou. ....	2		
C. N. O. & T. P. ....		5,659	
Cinchfield ....		1,100	1,257
Col. & Green. ....			1,257
D. & H. ....		100	5,000
D. L. & W. ....	5		
D. T. & I. ....		750	
D. M. & N. ....		500	
East Erie Commercial ....	1*		
E. J. & E. ....	6*		
Erie ....			80
Ft. W. & D. C. ....			4
G. T. W. ....		400	
Godfrey L. Cabot, Inc. ....		10	
G. N. ....		1,500	12
Great Western ....	1		
I. C. ....		3,100	20
Ill. Term. ....		150	
L. S. & I. ....		300	
L. & N. E. ....		75	1,200
Lehigh Val. ....		20	
La. & Ark. ....		200	50
L. & N. ....		3,027	
Me. Cent. ....			3,500
Mich. Limestone & Chem. ....	2*	30	
Milwaukee ....		2,022	13
M. St. P. & S. S. M. ....	4	550	
M-K-T ....		1,300	29
Mo. Pac. ....	6*	2,525	
Monongahela ....			1,000
N. C. & St. L. ....		500	
Nat'l Tube Co. ....		103	
N. O. Pub. Belt ....	3*		
N. Y. N. H. & H. ....	6†		55
N. Y. C. & St. L. ....		1,200	
N. & W. ....	10	2,030	9
N. P. ....	26	2,000	10,000
Patapsco & Back Riv. ....	4*		
Pennsylvania ....	11†	2,800	
P. M. ....	15	25	10
Phelps Dodge Corp. ....		30	
Phila. Beth. & N. E. ....	5*		
Pickands Mather Co. ....	2		
Reading ....		650	4
R. F. & P. ....	6		3,100
St. L.-S. F. ....	16	870	13,500
St. L. S. W. ....	5		10
South Buffalo ....	3*		41
S. P. ....			
Steelton & Highspire ....	1*		
Tenn. Cent. ....			2,250
Tenn. Coal, Iron & R.R. Co. ....		40	
U. P. ....	25	3,800	
Va. Smelt Co. ....		1	2,060
W. Md. ....			
Weyerhaeuser Lbr. Co. ....	2		
W. & L. E. ....	10	250	
Yngstwn & Nor. ....	1		
Yngstwn & Nor. ....	4*		

\* Diesel.

† Electric.

‡ Subject to revision.

cago Great Western; 12 per cent on the Chicago, Milwaukee, St. Paul & Pacific; over 200 per cent on the Detroit, Toledo & Ironton; approximately 5 per cent on the Louisville & Nashville; 50 per cent on the Missouri Pacific; 30 per cent on the Mobile & Ohio; 10 per cent on the Pere Marquette; 8 per cent on the Southern and the Southern Pacific; over 25 per cent on the Union



Pacific; and almost double on the Western Pacific and the Wheeling & Lake Erie.

The purchases of materials from manufacturers, excluding fuel and equipment, during the four months ending April 30 totaled \$922,000 on the Central of Georgia, compared with \$887,000 in the first four months of 1936; \$990,000, compared with \$747,000, on the Chicago & Eastern Illinois; \$7,137,000, compared with

\$5,379,000, on the Chicago & North Western; \$4,845,000, compared with \$3,171,000, on the Chicago, Rock Island & Pacific; \$1,585,000, compared with \$967,000, on the Delaware & Hudson; \$3,195,000, compared with \$2,225,000, on the Erie; \$4,110,000, compared with \$2,495,000, on the Great Northern; \$6,760,000, compared with \$4,161,000 on the Illinois Central; \$2,185,000, compared with \$1,433,000, on the Lehigh Valley; \$1,-

### Total Materials and Supplies on Hand

	Fuel (000)	Crossties (000)	Rail (000)	Other Material (000)	Scrap (000)	Total (000)		Fuel (000)	Crossties (000)	Rail (000)	Other Material (000)	Scrap (000)	Total (000)
May 1, 1937.....	\$32,828	\$52,757	\$39,338	\$235,288	\$7,402	\$367,613	May 1, 1936.....	25,064	44,084	36,741	185,971	7,666	299,528
Jan. 1, 1937.....	26,137	54,834	32,041	198,856	9,926	307,574	Jan. 1, 1936.....	22,818	42,020	34,275	171,920	9,427	279,926

### Materials and Supplies on Hand—May 1

	Rail—New & S. H.		Crossties		Other Material, Less Fuel	
	1937	1936	1937	1936	1937	1936
A. C. & Y.....	\$10,071	.....	\$34,387	.....	\$78,818	.....
Alton.....	71,782	\$534,135	172,686	\$185,317	510,010	\$493,717
Alton & Sou.....	16,042	8,828	8,254	5,356	70,413	38,230
Ann Arbor.....	10,906	13,963	60,497	37,342	217,629	185,561
A. T. & S. F.....	2,671,491*	3,729,484	1,096,907*	1,097,989	13,604,669*	11,045,838
A. C. L.....	450,936	115,382	77,528	90,582	1,967,959	1,965,338
B. & O.....	921,572*	350,814	1,803,674*	1,441,908	8,042,978*	5,456,156
Bang. & Ar.....	68,183	72,608	105,145	104,573	557,512	543,984
Bing. & Gar.....	41,985†	37,651	4,871†	29,467	69,873†	60,296
B. & M.....	474,725*	554,848	1,265,045*	1,374,254	2,605,492*	2,549,962
Camb. & Ind.....	12,893	7,109	8,375	4,768	43,919	39,880
Cent. of Ga.....	73,851	102,416	136,301	269,776	910,803	701,450
Cent. of N. J.....	179,806*	96,124	166,151*	202,832	1,208,906*	1,066,000
Cent. Vt.....	55,125	38,197	103,239	129,848	370,689	325,589
C. & W. C.....	37,705	1,210	3,418	11,395	90,627	141,297
C. & E. I.....	313,716	249,779	145,315	166,595	714,278	485,670
C. & I. M.....	18,633	.....	7,421	2,446	213,949	215,781
C. & N. W.....	2,619,693	1,819,687	2,738,682	1,957,535	6,661,193	5,313,143
C. B. & Q.....	839,556	904,168	2,357,742	2,428,722	6,369,405	3,922,448
C. G. W.....	151,252*	85,673	237,710*	183,476	740,792*	557,753
C. I. & L.....	46,846*	53,047	113,228*	65,286	660,346*	530,556
C. R. I. & P.....	1,304,272	333,125	696,099	440,182	5,204,631	3,968,772
C. St. P. M. & O.....	157,118	104,300	511,738	393,479	917,069	691,630
Clinch.....	46,912*	31,823	101,461*	152,644	266,116*	268,397
Col. & Green.....	258	4,124	—110	1,005	112,294	106,951
Del. & Hud.....	241,791	196,419	240,024	276,411	1,712,371	1,394,029
Colo. & Sou.....	148,541	.....	90,107	.....	275,943	.....
Det. & Mack.....	11,881*	21,558	40,452*	39,185	132,696*	135,910
D. & T. S. L.....	8,840	4,239	19,739	19,560	72,517	72,453
D. T. & L.....	113,153*	25,652	100,299*	88,170	353,633*	324,729
D. M. & N.....	97,462	82,866	225,077	235,750	721,185	536,227
D. S. S. & A.....	68,881	89,766	49,732	41,455	184,795	188,850
E. J. & E.....	88,197	57,727	135,888	129,396	873,199	614,098
Erie.....	206,148	232,899	742,065	996,013	2,515,372	1,969,210
F. E. C.....	209,938	101,216	104,706	56,673	1,142,362	1,107,069
Ft. S. & W.....	4,484*	5,408	15,851*	3,419	155,932*	152,239
G. N.....	781,640	696,361	1,535,484	1,475,898	5,240,008	4,009,154
I. C.....	273,670	161,299	491,429	984,690	7,056,681	4,887,141
K. C. S.....	223,245*	40,397	327,475*	285,466	678,982*	511,106
K. C. Term.....	18,020	9,858	20,255	17,336	124,553	120,811
L. S. & I.....	80,566	85,456	23,349	12,249	159,832	130,007
L. & N. E.....	52,322	55,444	38,807	27,773	233,132	196,940
L. Val.....	81,395	214,346	227,461	307,155	2,269,587	1,970,365
L. & A.....	239,590	153,832	108,084	153,258	510,674	411,470
L. & N.....	909,414*	840,957	1,555,416*	1,786,169	5,701,918*	2,071,564
Me. Cent.....	115,188*	146,085	331,072*	264,125	971,385*	967,461
Soo.....	106,696	91,284	535,666	607,111	1,211,787	1,129,557
Mo. & Ark.....	886*	1,285	16,301*	1,036	50,518*	48,553
M-K-T.....	126,481	220,597	379,456	340,231	1,410,623	1,381,244
M. & O.....	84,401*	47,310	14,300*	22,650	634,771*	585,833
Monong.....	4,133*	16,192	32,994*	16,356	166,915*	182,564
Montour.....	11,679	6,908	16,081	970	139,723	145,766
N. C. & St. L.....	263,709	194,710	254,068	221,291	1,248,596	933,927
Nev. Nor.....	4,409*	4,906	21,724*	16,326	66,692*	60,606
N. Y. N. H. & H.....	823,925*	1,073,228	534,194*	408,263	3,227,925*	3,543,249
N. Y. O. & W.....	46,745	84,779	77,110	72,994	431,757	412,761
N. W. P.....	34,555*	46,013	28,659*	20,519	76,840*	90,799
N. P.....	309,140	508,192	1,454,890	1,324,251	5,079,498	4,905,987
P. & P. U.....	6,835*	13,660	10,832*	21,965	91,135*	92,133
P. & S.....	13,889	21,174	34,359	4,507	86,485	63,198
P. & W. Va.....	51,915†	27,136	19,515†	22,664	188,476†	78,783
P. S. & N.....	8,600	10,697	11,880	12,568	57,150	68,403
Read.....	434,280*	713,897	439,292*	456,492	3,615,247*	3,461,172
R. F. & P.....	In O. M.	In O. M.	In O. M.	In O. M.	665,187	697,082
Rutland.....	60,614	31,612	31,612	60,575	209,302	194,258
St. L. S. F.....	506,727	447,963	873,746	559,412	3,544,520	2,838,517
St. L. S. W.....	150,050	95,298	280,684	107,059	1,132,212	741,963
S. A. L.....	465,348*	549,918	241,593*	174,867	2,691,550*	2,225,808
Sou.....	326,929*	630,685	633,865*	678,039	5,029,041*	3,743,372
S. P.....	788,314*	1,634,807	1,761,607*	1,347,419	5,738,089*	4,313,719
S. P. & S.....	70,914*	48,628	11,112*	25,620	340,639*	327,487
Ter. of St. L.....	48,810	8,465	19,801	2,745	328,434	310,002
Tenn. Cent.....	.....	.....	2,032*	12,084	190,991*	177,701
T. & N. O.....	606,543	672,465	495,275	339,911	2,280,261	2,104,545
T. & P.....	269,953	313,865	281,786	246,403	2,347,043	2,096,930
U. P.....	4,419,808*	2,817,465	2,407,563*	2,114,367	15,980,612*	12,104,463
Utah.....	53,032	26,100	15,976	38,474	152,201	143,160
Virginian.....	148,153	174,112	106,741	143,986	1,649,280	1,226,485
Wabash.....	361,112*	484,752	722,245*	453,173	1,636,566*	1,272,667
W. Md.....	40,766	4,847	420,436	452,116	1,044,746	835,263
W. P.....	430,200*	351,400	120,600*	104,650	2,175,200*	1,859,658
W. & L. E.....	151,367*	239,853	205,610*	150,089	1,032,194*	658,985

\* April figures. † March figures.

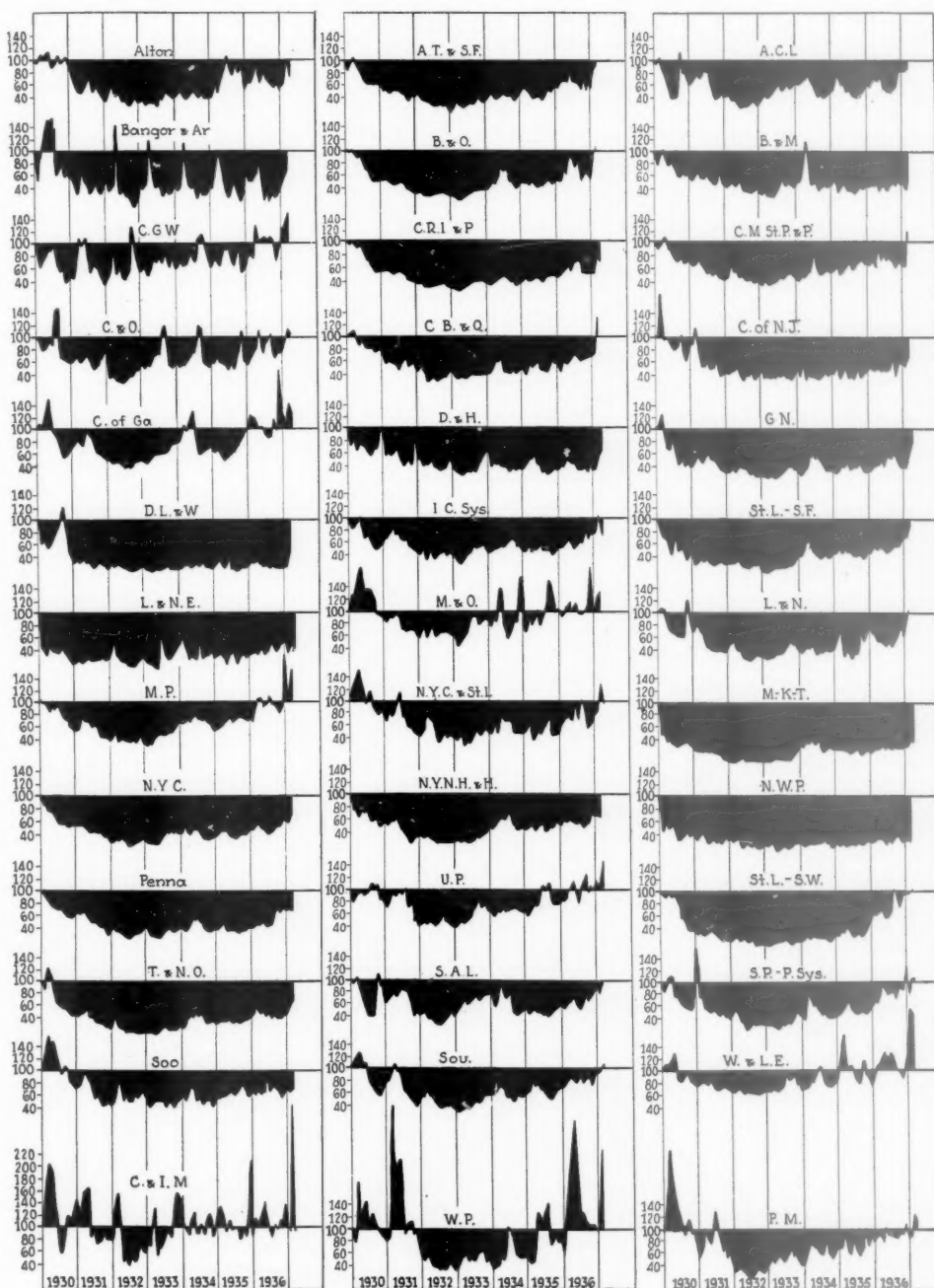
303,000, compared with \$950,000, on the Missouri-Kansas-Texas; \$1,091,000, compared with \$730,000, on the New York, Chicago & St. Louis; \$6,627,000, compared with \$4,863,000, on the Southern Pacific, Pacific Lines; and \$1,281,000, compared with \$890,000, on the Virginian.

### Deferred Buying

For the first time since 1929, the railroads are now spending about 15.7 per cent of their gross earnings from operations for materials and supplies, exclusive of equipment and fuel. The rate of their buying was less than this throughout the depression by varying amounts, for, while earnings declined with declining traffic from 1929 to 1932, purchases were reduced relatively more than earnings were reduced; and, while earnings have been increasing since 1932, the parity between purchases and earnings was not restored until this year. As compared with an average of 15.7 cents per dollar of earnings spent for purchases in 1929, the average in 1932 was only about 8 per cent, and fell as low as 6.5 per cent. The trend in this proportionate rate of buying, month by month, from January, 1929, to June, 1937, is shown in a chart. After making proper adjustment for differences in material prices, the difference between the expenditures made by the railroads for materials and supplies, exclusive of equipment and fuel, in the six years following January, 1930, and the expenditures the railroads would have made to maintain the same mileage of line and move the same volume of traffic if they had spent proportionately as much during the period out of their earnings as they did in 1929 and in earlier years, total approximately one billion dollars. This is regarded by some as a measure of the accumulated deficiency in railway buying necessary to restore the railroads to their former standards of maintenance and represents purchasing which must be done in the future by increasing the proportionate amount of earnings to be allocated for purchases or by

increased capital expenditures or by the purchase of more efficient material; that is, materials which cost less per unit of work performed or service life rendered.

Unapplied materials and supplies on hand May 1 this year totaled approximately \$367,000,000, as compared with \$307,000,000 on January 1, 1937 and \$299,000,000 on May 1, 1936. As compared with May 1, 1936, the current inventory is an increase of 22 per cent and includes an increase of \$7,000,000 in the fuel account, 8,000,000 for cross-ties, \$3,000,000 for rail (new and secondhand) and \$50,000,000 for storehouse materials. A total of 65 railroads out of 80 for which figures are available have reported higher inventories this year than in the corresponding months last year. The reports show an increase in the storehouse stock of 30 per cent on the Central of Georgia; 47 per cent on the Chicago & Eastern Illinois; 23 per cent on the Chicago & North Western; 31 per cent on the Chicago, Rock Island & Pacific and the Chicago, St. Paul, Minneapolis & Omaha; 22 per cent on the Delaware & Hudson; 35 per cent on the Duluth, Missabe & Northern; 40 per cent on



Trend of Purchases by Representative Roads for Materials and Fuel, Exclusive of Equipment—January, 1930, Equals 100

the Elgin, Joliet & Eastern; 29 per cent on the Erie; 28 per cent on the Great Northern; 44 per cent on the Illinois Central; 15 per cent on the Lehigh Valley; 34

**Purchases from Manufacturers—Four Months  
(Fuel and Equipment Excluded)**

	1929	1930	1936	1937
A. C. & Y.....			90,153	87,832
A. C. L.....	\$5,613,519	\$3,745,137	\$1,736,587	\$2,481,855
Alton.....	1,342,503	1,292,478	956,733	995,843
Alton & Sou.....			29,234	87,220
Ann Arbor.....			161,026	231,234
A. B. & C.....	359,525	323,889	175,881	270,695
Bang. & Ar.....			233,461	236,326
Cambria & Ind.....			30,113	41,275
Cent. of Ga.....	1,158,922	1,064,829	887,948	922,957
Cent. Vt.....			260,896	321,338
C. & E. I.....	1,128,490	1,172,142	747,497	990,406
C. & I. M.....			136,737	132,476
C. R. I. & P.....	7,478,157	7,349,417	3,171,583	4,845,458
C. & N. W.....			5,379,785	7,137,660
C. St. P. M. & O.....			589,812	952,460
C. B. & O.....	7,553,107	8,132,770	4,553,029	8,361,712
C. & W. C.....			67,209	120,405
Colo. & Sou.....			285,388	424,923
Col. & Green.....	94,887	87,814	66,821	75,388
D. & H.....			967,333	1,585,093
D. & T. S. L.....			96,724	60,433
D. M. & N.....			597,477	924,451
D. S. S. & A.....			66,414	97,365
E. J. & E.....			628,923	1,137,949
Erie.....			2,225,072	3,195,292
F. E. C.....			277,455	433,999
G. N.....			2,495,096	4,110,921
I. C.....	9,430,868	6,572,370	4,151,823	6,760,973
K. C. Term'l.....			211,789	210,948
L. S. & I.....			36,471	74,887
L. & N. E.....	166,090	270,798	98,850	185,655
Lehigh Val.....			1,433,420	2,185,213
La. & Ark.....			398,733	528,130
M. St. P. & S. S. M.....	2,118,278	2,349,246	880,933	1,068,070
M-K-T.....	3,168,785	2,547,108	950,659	1,303,273
Montour.....			77,599	94,396
N. C. & St. L.....			730,807	1,091,717
N. Y. O. & W.....			253,452	235,119
Nor. Pac.....			3,229,103	3,568,867
Nw. Pac.....			43,189	46,612
P. & S.....			12,690	81,273
P. S. & N.....	132,278	114,757	25,788	32,498
R. F. & P.....			347,454	439,657
Rutland.....			100,339	161,507
S. P.....	8,033,722	7,041,981	4,863,951	6,627,235
St. L.-S. F.....	3,760,740	4,243,548	2,537,436	3,881,656
St. L. S. W.....	1,936,958	1,861,155	944,481	1,662,878
Term'l of St. L.....			289,945	361,615
T. & N. O.....	3,601,904	4,618,173	1,998,274	2,262,863
T. & P.....			1,453,728	1,588,920
Utah.....			37,212	78,647
Virginian.....			890,427	1,281,596
W. Md.....	2,138,852	1,049,248	838,338	1,405,483

per cent on the Nashville, Chattanooga & St. Louis; and 35 per cent on the Virginian. In general, these increases in inventories reflect increases in the cost of material purchased and also accumulations necessary to meet requirements of the railroads for maintenance work. It is entirely probable that some of the increases also represent accumulations of material made in anticipation of further advances in material costs.

\* \* \* \*

## Superintendents Meet in Chicago

(Continued from page 1017)

ganization upon legislative matters. Frankly, we have been more successful than I dared hope, but one of our great difficulties is where they are able to show and prove that a railroad or an officer does not live up to an agreement when it has entered into. In other words, what earthly reason can we advance if they are able to show that agreements already made are disregarded?

I have great hopes for the railroad business. I have been in it more than half a century and in all that time Old Nick has been just around the corner. Several times we have seen a piece of his tail, and sometimes a hoof but he has never got around the corner yet. I don't believe he is any nearer around it now than at any time in that period.

I am not afraid of government ownership of railroads. We had one choice sample of that in which I participated. I am not afraid of it except for one or two things: one is failure of ours, a failure to give service. That will precipitate government ownership as nothing else will; and the other thing is a passage of laws that penalize the railroads to an extent to make private operation impossible. To whatever extent we can, and we should do it logically and fairly and earnestly, we should oppose deliberate work-making laws which enforce penalties unnecessarily, sometimes in the guise of safety. We should oppose these in every way, and we have been reasonably successful in appealing to legislators in those matters.

Those two things represent the only way by which the railroads could be placed in the hands of the government. I don't want, while I live, to see the incentive of private initiative, private ambition, justified ambition, taken away from railroad men. We have had it all our lives, and I crave that for you.

It is a great business, and it is a satisfaction after a lifetime to realize that when I was in Washington, far removed from every opportunity for real personal contact, I could feel the impulse, the reaction, the loyalty, that came from the operating officers on the railroads. They had no lure ahead of them, as the employees did, of a practical promise of increased pay. Many of them were working for the government for less than they had received, and working harder, but in the most loyal, effective way. If ever I felt proud of the railroad operating officers on the American railroads, I felt proud of them when I had the opportunity to see them in action, and so I think that the men represented in your organization have a great part in determining the railroad future.



On the Atchison, Topeka & Santa Fe at Needles, Calif.



# Interline Freight Accounting\*

A proposed new plan which promises large savings in accounting costs and better revenue protection

By T. H. Seay

Comptroller, Southern

**W**HILE accounting officers have sought an economical procedure for interline accounting, they have never been willing to shirk the responsibility which the amount of money to be distributed between carriers places upon them; and, possibly to a fault, have never advocated a procedure which had any possibilities of a sacrifice of revenue protection. I have no idea of advocating any less diligence at this time. My conviction is that the procedure I propose will protect the revenues much better than at present with substantially less cost.

Our interline accounting theory throughout these many years, has apparently been influenced by the idea that only through so-called "mass production" could interline freight accounting economies be realized. Under such theory, the procedure had to provide for the settlement of traffic beset with the greatest difficulties and involving the most complications. Our rules, stationery, and procedure were built for that difficult traffic and, although it comprises a relatively small percentage of interline traffic, for the sake of uniformity or mass production, the simplest traffic to settle has been accorded the minute procedure necessary for the most difficult.

## Simple Accounting Possible for Most Shipments

The number of interline waybills in the United States, collectively considered, reaches an astounding total and the settlement accounts are so voluminous that any consideration of them as a whole has usually been unproductive of material changes or substantial simplifications of procedure. There has been a growing realization of late that any material improvement in interline accounting procedure, and interline revenue protection, must result from a break-down and classification of the traffic and accounts rather than attempt to change the procedure applicable to the settlement accounts as a whole. The suggestions which follow are simple and involve no departure from basic principles. Only a general knowledge of interline freight accounts is necessary to follow them.

While the *initial* statement of interline accounts has been a costly procedure, the *secondary cost* to many carriers is even greater. This secondary cost, known as revision of interline settlements, involves verification of divisions, issuance and settlement of statements of differences, claim adjustments, correction account settlements and noting records of corrections. The extent of this secondary cost will be appreciated when consideration is given to the experience required and payroll rating of employees for this service. By the change in procedure here suggested, it is hoped an initially correct settlement of a large proportion of the traffic can be

brought about and the verification of that proportion for revenue protection be so simplified that present costs will be materially reduced. The small proportion of difficult traffic remaining—that traffic difficult to divide and settle—can be set aside and given necessary expert handling for a correct distribution of revenue. The small volume of difficult traffic will also permit of frequent and complete analysis and also intelligent presentation to traffic officers for simplification by tariff and divisional corrections or otherwise.

With this preamble, the following classification and treatment of such classification is suggested. The plan proposes a complete separation be made of interline waybills in each class, and preferably that a separate set of bound records be established.

**Classification "A".**—Interline waybills covering l.c.l. traffic upon which the total transportation charge, origin to destination, is \$5 or less per waybill, regardless of the number of carriers involved. Exclude waybills covering freight accorded transit privileges, government shipments, company material, etc.

**Classification "B".**—Interline l.c.l. waybills upon which the total transportation charge origin to destination, is more than \$5 per waybill, excluding those waybills excluded from the preceding classification.

**Classification "C".**—Interline carload waybills upon which there are agreed divisions.

**Classification "D".**—Interline carload waybills in connection with which the divisions are not agreed to, but for which each carrier will agree to accept the settling carrier's apportionment, stated in exact terms, until an agreement is reached, or until notified by an interested carrier to the contrary.

**Classification "E".**—All interline waybills other than those specified in classifications "A" to "D".

## Most Paper Work from Small Shipments

Several charts herewith indicate the relation of each of these so-called classifications to the whole. Fig. 1 is intended to show the ratio of l.c.l. and carload to the total. The first cross-hatched column represents the total interline waybills made by Class 1 railroads and the black block the total revenue from those waybills. The blocks to the right show the relation of l.c.l. waybills and revenue and of carload waybills and revenue to the total.

L.c.l. interline waybills are 72 per cent of all interline waybills and produce 8 per cent of the revenue. Carload interline waybills make up the remaining 28 per cent of total waybills but produce 92 per cent of the revenue.

Fig. 2 is illustrative of waybill volume, by classes, and again the first block on the left represents all interline waybills, and successively to the right are blocks indicating the relation of each classification to the total. Classification "A", l.c.l. waybills \$5 and under, absorbs

\* Abstract of an address delivered at the annual meeting of the Railway Accounting Officers, Atlantic City, N. J., June 4.

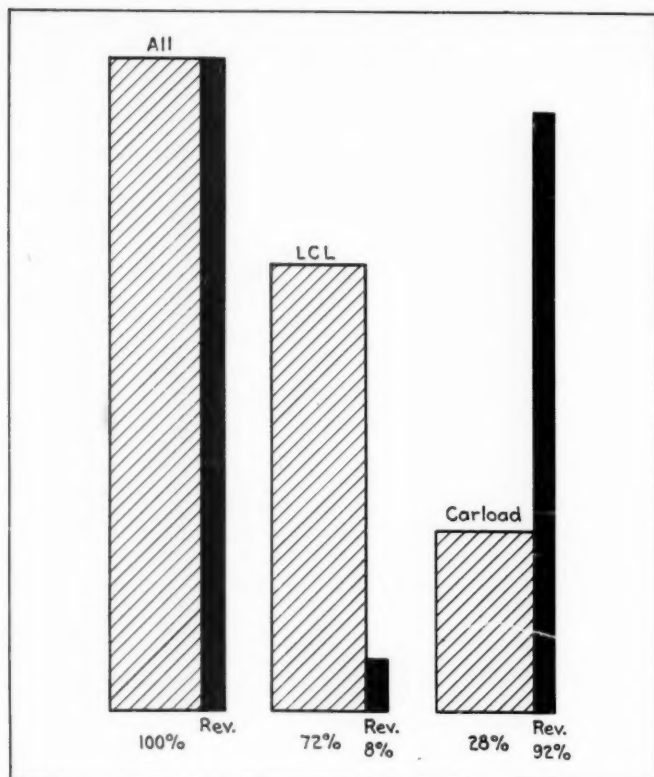


Fig. 1—Interline Received Waybills

56 per cent of all interline waybills; l.c.l. waybills over \$5, 16 per cent; carload interline waybills with agreed divisions 27 per cent; and with no agreed divisions 1 per cent. With these ratios in mind, the advantage of suitable procedure for each classification will be apparent.

#### Classification "A"

Fig. 3, restricted to l.c.l., reflects the ratio of waybills and revenue of Classifications "A" and "B" to the total. Waybills for \$5 and under absorb 77 per cent of the total and 32 per cent of the revenue. Waybills with revenue over \$5 absorb the remaining 23 per cent of l.c.l. interline waybills and produce 68 per cent of this class of interline freight revenue.

It is proposed that an abstract be constructed (Fig. 4), the printed heading of which will include the code numbers and names of settling and other interested carriers and junction points, leaving as much space as possible in the body of the abstract to provide for the recording of waybills. The body of the abstract will be arranged to provide for date and number of waybill, forwarded and received station audit numbers, weight, freight, advances and prepaid in such manner as will permit rapid recording of waybills by any suitable mechanical listing machine or device.

Arrange Classification "A" waybills in route order, using as a base for route determination the junction point of receipt by the destination carrier. Assort waybills for each route in forwarded station order and for each forwarded station in destination station order—then by date and waybill number for each station to station movement. The plan contemplates these waybills to be listed continuously, and one grand total produced for all waybills via each route; single spacing is suggested, as is the use of both sides of the abstract. No station to station or individual sheet totals are to be shown.

Listing on both sides of abstract forms is a radical departure from existing procedure, but is considered en-

tirely feasible and reasonable in view of the infrequent use of these records after the initial audit as hereafter explained.

#### Abstracts Reduced 97 Per Cent

To illustrate what can be accomplished; for the entire January, 1937, interline settlement of waybills from the Pennsylvania to the Southern on which the total transportation charge, origin to destination, was \$5 or less per waybill, directly interchanged or otherwise, 211 abstracts were required for the continuous listing of these l.c.l. waybills as herein suggested. Through the use of listing machines other than typewriters, only one total for each route for the weight, freight, advances and prepaid has been shown. 7,374 regular station to station abstracts were required under present practice. The proposal reduces the number of sheets of paper used by 7,163 a percentage reduction of 97.14 per cent. If the suggestion for separate binding of this class of waybills and abstracts is adopted, the infrequent use to be made of the records, after completion of the audit, will permit the transfer of them to permanent record warehouses much sooner than has heretofore been possible, thus releasing space in working offices.

A printed recapitulation blank half the size of the abstract, is proposed in lieu of the present recapitulation of abstracts. The suggested form shows all essential information as to the movement, route, name of participating carriers, the road to road percentages applicable, also blank columns for proportions, and the total weight, freight, advances and prepaid.

Under the present plan of abstracting, most carriers have found it necessary to enter waybills on abstracts at several intervals during the month, thus making it necessary later on as a separate operation either to add the tonnage and revenue columns or pick up and accumulate group totals on all abstracts. Under this proposal no abstracting will be necessary until the close of the month, which will enable one machine run for each given route to accomplish the dual functions of both listing the waybills and totaling the abstracts.

The total weight on waybills of this class, for the test

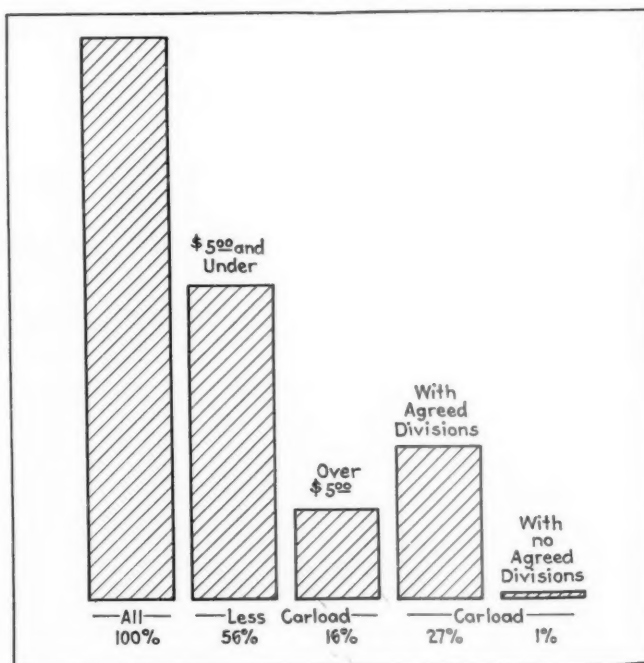


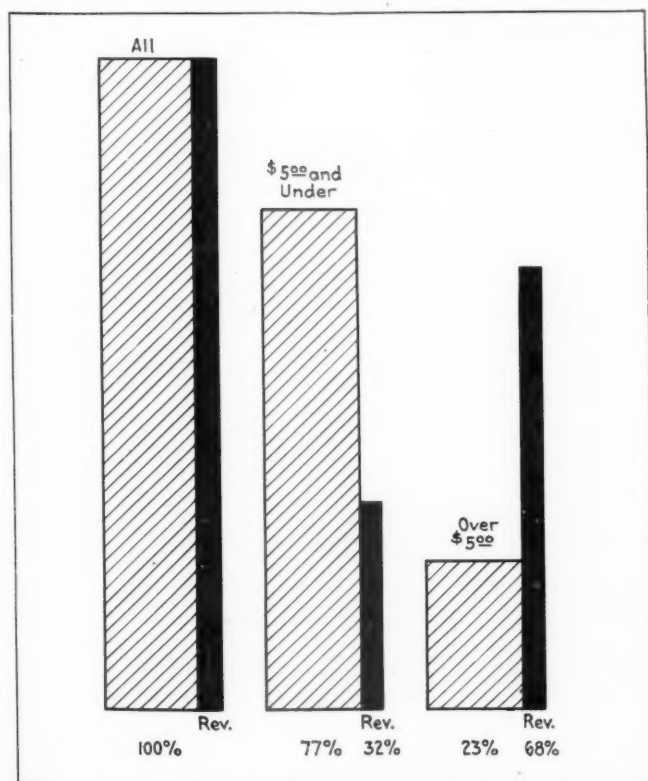
Fig. 2—Grouping of Interline Received Waybills

month, aggregated 1,020 tons, and the total revenue was \$21,879. The average total revenue per waybill was approximately \$1.79.

For the distribution of revenue to states and other statistics required by individual railroads, it is suggested that the determination of ton miles and revenue apportionment be stated based on the relation to the other classes of traffic or any other reasonable assignment which the reporting carrier may care to adopt. When consideration is given to the relation of this traffic to the total revenue distribution to states, etc., its relative unimportance is so apparent that little, if any, reasonable objection can be found to the adoption of some less burdensome statistical plan.

For waybills of this classification, it is proposed that road-to-road (junction) percentages be used to apportion the revenue between railroads *and that no adjustments of revenue, between carriers, be made on individual waybills after initial settlement.* It is recognized that road-to-road percentages are already used by many carriers. However, some roads have been reluctant to subscribe to such divisions for fear of insufficient revenue protection, or for the reason that little or no material saving could be made under the present procedure of stating interline accounts. The suggested plan not only paves the way for adopting road-to-road percentages, at least on this class of waybills where sufficient revenue protection is assured, but greatly enhances the value of such percentages to roads which already use them. Errors in the apportionment of the total revenue by routes will be adjusted as at present. No distributions of overcharges or undercharges will be made on individual waybills nor will overcharge claim adjustments be made for this class of traffic.

Only a very limited calculation for the entire month's settlements will be necessary for a complete revision of these interline accounts. The destination carrier will be charged, as at present, with the duty of assessing and collecting the proper revenue.



**Fig. 3—L.C.L. Interline Received Raybills**

724-SOUTHERN RAILWAY COMPANY-724

ABSTRACT OF INTERLINE WAYBILLS RECEIVED

SHEET No. 1

COMMODITY: 710 - MOSE

FWD

MONTH - JANUARY 1937 ROAD 620 - PENNSYLVANIA R R

ROUTE 620 PENN TO POTOMAC YARD (1111) 724 SOUTHERN TO DESTINATION

WAYBILL		FORWARDED STATION	RECEIVED STATION	WEIGHT	FREIGHT	ADVANCES	PREPAID
DATE	NUMBER						
JAN 13	17022	25	1014	100	63		
JAN 21	34941			100	90		90
JAN 20	30300		1056	100	109		
JAN 2	1352		1112	586	393		393
JAN 2	1440			100	90		90
JAN 5	3013			100	79		
JAN 6	6320			100	55		
DEC 31	7040			460	212		
DEC 31	7042			660	304		
JAN 6	7300			100	67		67
JAN 6	7667			100	67		67
JAN 7	9733			340	228		228
JAN 9	15130			120	80		80
JAN 11				163	109		109
JAN 13					79		

724-SOUTHERN RAILWAY COMPANY-724

RECAPITULATION OF LESS THAN CARLOAD ABSTRACTS WAYBILLS \$5.00 AND UNDER

JAN 13	MONTH-JANUARY 1937	FWD ROAD	620	PENNSYLVANIA R R	COMMODITY: 710-MOSE.	67
JAN 16	ROUTE 620 PENNSYLVANIA TO POTOMAC YARD (1111)	724 SOUTHERN TO DESTINATION				
JAN 18	DIVISION AUTHORITY	DIVISIONS STATED IN PERCENTS	NAME OF CARRIER	PROPORTIONS		
JAN 18	AWARD ROAD TO ROAD PERCENTS	34 41	PENNSYLVANIA	7023.88		
JAN 18		85 59	SOUTHERN	9400.00		
JAN 18	TOTAL		WEIGHT	FREIGHT	ADVANCES	PREPAID
JAN 18	ABSTRACT TOTALS		499000	147742	20140	464607

**Fig. 4.—Abstract of Waybills**

Considering all costs, it is estimated the accounting for waybills of classification "A" can be produced, with proper revenue protection, at a small percentage of the cost of the station to station method of apportioning the revenue from these waybills, where now in use. It is proposed that this method and basis of settlement be made mandatory between all carriers.

**Classification "B"**

Class "B" is intended to include all l.c.l. interline waybills upon which the total transportation charge, origin to destination, is more than \$5 per waybill, excluding those waybills covering traffic afforded transit privileges, federal or state government transportation, company material, and such special movement as it may be found desirable to exclude in stating waybills under this class for settlement. It is proposed to use the same preprinted abstracts as suggested for waybills classified as "A", and to throw totals after each state movement, by routes. In consideration of the revenue on these waybills, road-to-road percentages are proposed, that term being sufficiently inclusive to indicate totals, state to state, by routes, station groups to station groups, or any other geographical or numerical arrangement that interested carriers may agree to be necessary.

It is proposed that waybills be entered on abstracts by listing machines other than typewriters; the rapidity of such listing will permit the accumulation of the waybills until the month's business is closed, thus making possible the initial insertion of totals after each such listing. Abstracts covering this class of l.c.l. waybills will be prepared in such manner as to permit the compilation of all statistical data in practically the same detail as at present, although whether or not the same statistical information for both carload and l.c.l. traffic is



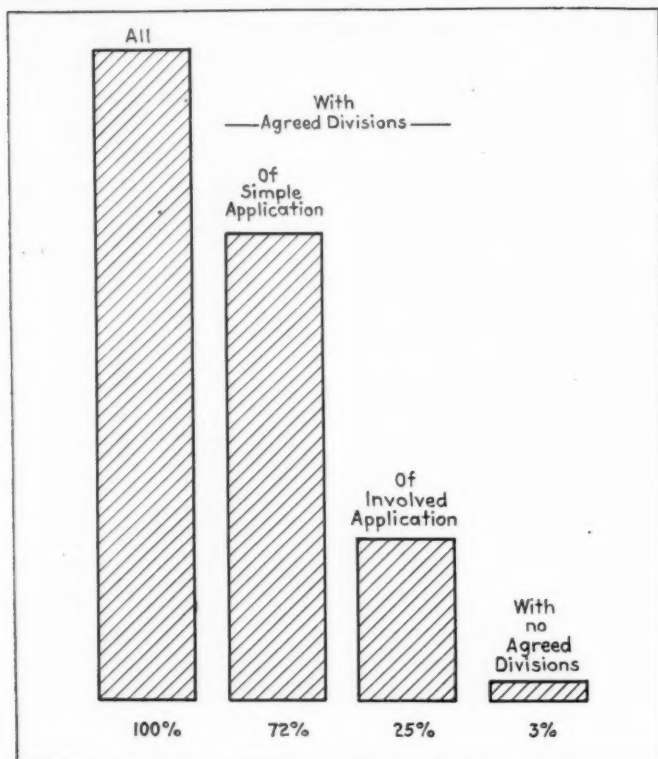


Fig. 5—Carload Interline Received Waybills

necessary or informative is doubtful. A simplified apportionment satisfactory to all concerned may be worked out to meet all needs and reduce the accounting cost of statistics. As a suggestion, all requirements might be met by assigning tons and revenue to states on this class of traffic in the same ratio as tons and revenue on carload traffic are assigned, or some other reasonable basis.

It will readily be apparent that many of the economies suggested for the waybills under Class "A" are directly applicable to settlement of waybills of this class. The importance and necessity for revenue protection increases in relation to the amount of revenue involved. It is, therefore, suggested that waybills of this class be bound separately and that carriers make such revision for revenue protection as may be considered necessary by each of them. Again using the January, 1937, settlement of interline waybills of this class received by the Southern from the Pennsylvania for the illustration, 428 abstracts, set up on state-to-state percentage groups by routes were required, as compared with 5,513 abstracts for the standard method of settlement. The change resulted in a reduction of 5,085 sheets, a percentage reduction of 92 per cent. It is estimated that, for this particular class of traffic, the cost of settlement would be greatly reduced and there would result from this procedure revenue protection far superior to that previously enjoyed.

For those I.c.l. waybills covering shipments accorded transit privileges, government freight, etc., which were excluded from Classes "A" and "B," it is proposed to continue the form of settlement now employed.

### Classification "C"

A chart (Fig. 5), restricted to carload interline waybills, will illustrate the *raison d'être* for the proposed classification of these waybills. For 72 per cent of them the carriers in the United States have agreed divisions. This percentage of all carload interline waybills has

been classified as "C". For 25 per cent of carload interline received waybills there is a method for dividing the revenue between interested carriers but there are difficulties incident to the transportation which makes the application of divisions an involved procedure. This is not true of the 72 per cent classified as "C". The 25 per cent of involved application, likewise, is reasonably easy to account for. It has been classified as "D." A significant fact is that for only 3 per cent of carload interline waybills are there no agreed divisions. The settlement of that 3 per cent of waybills requires the highest grade of rate and clerical knowledge. Segregated, it can receive that application without any severe burden upon accounting costs.

By far the largest proportion of revenue, insofar as most carriers are concerned, is derived from interline carload traffic. The protection of that revenue is paramount. In our retrospective view, we see the destination, waybilling, and intermediate carriers, all directing their audit of the same waybill independently of each other and therefore at greater cost than need be for the simple reason that the abstract, as presently prepared, is not all inclusive of the needs of all carriers. We have been far amiss in our rules and interline arrangements in placing responsibility upon the destination carrier for settlement of interline waybills and have failed, in defining that responsibility, to obligate the destination carrier to so state the account initially that the waybilling and intermediate carriers will have readily available, on the face of abstracts, all essential information now had by the destination carrier through retention of the original waybills.

The proposed procedure has been thought out and designed with the express purpose of affording better revenue protection to all carriers at less cost than our present plan of settlement, by setting in motion an abstract pre-conceived, by its very composition and the manner of its preparation, to be inherently correct. Year in and year out, for as many years as you care to go back, a substantial percentage of the total interline carload traffic may be termed "repeater traffic" in connection with which, and to a greater extent than may have been realized, there are agreed divisions for the apportionment of the revenue. It is proposed, for these carload waybills classified as "C", to preprint the heading of the commodity abstract in its entirety. Fig. 6 presents a suggested form of abstract.

The suggestion involves printing additional informa-

724-SOUTHERN RAILWAY COMPANY-724									
ABSTRACTS OF INTERLINE WAYBILLS RECEIVED									
CODE NUMBER		620		PENNSYLVANIA RR		MONTH OF JAN. 1937		TO	
WAYBILLING CARRIER		620		PENNSYLVANIA RR		COMMODITY: Baled Hay		WAYBILLED FROM: 4895 Union City Pa.	
WAYBILLED TO: 1333 Front Royal, Va.		WAYBILLED FROM: 4895 Union City Pa.		ROUTE: 620 PENN. TO POTOMAC YARD (1111)		724 SOUTHERN TO DESTINATION		THROUGH RATE: 1.35	
AUTHORITY FOR RATE: T.L.A. PT 68		DIVISIONS - AUTHORITY: Sou. P/2 9063		DIVISIONS AS PUBLISHED		DIVISIONS REDUCED TO PERCENTS		DIVISIONS STATED IN CENTS PER CWT.	
-028 { 73% + 028		73.6		25.4		73.6		25.4	
( 37% )		73.6		25.4		73.6		25.4	
WAYBILL		CAR		NAME OF CARRIER		PROPORTION			
DATE		NUMBER		INITIAL		NUMBER		WEIGHT	
JAN 7		50206				34906		21200	
JAN 13		50431				70577		25900	
JAN 18		50503				76847		30000	
								77100	
								269858	
								FREIGHT	
								ADVANCES	
								PREPAID	

Fig. 6—Classification "C" Abstract

tion and also reproduces all of the information shown on our present standard form of abstract in greater detail than at present. There has been added the through rate applicable to the shipment, the tariff authority for that rate, authority for divisions, divisions stated as published, divisions reduced to percentages, followed by a column showing the divisions in cents per hundred weight—the total of this latter column to equal the through rate. The code number and name of each carrier participating in the revenue will be preprinted on the abstract and also a blank column headed "proportions" for insertion of the revenue due each carrier.

### Avoiding Repetition of Calculations

Preprinting the heading of the abstract as described is intended to serve three definite purposes:

1. Instead of following the age-old procedure of checking and verifying rates and divisions each month for identical traffic moving over and over again from month to month, it is proposed to have the rate and divisions determined for the initial movement by a competent rate clerk. The information is to be printed on an abstract form, which form will be assigned a code or divisional number, and sent to each carrier participating in that particular transportation for check and verification. When agreed to, all participating carriers bind themselves to make no change in the accepted printed divisions on such abstracts until after notice of disagreement is given in detail to other carriers in route of transportation. The technical study of tariffs, necessary to determine the correct rate and the divisions of that rate, is a time consumer and, once having been accomplished and agreed to, will not be done over again and again for the initial settlement and subsequent revisions by interested carriers, as is the present procedure.

Waybills covering the particular commodities, between given stations and via the route for which the abstract is preprinted, will be matched with the preprinted abstracts by accounting clerks without reference to rate or division forces; the entire verification will consist of clerical comparisons by competent clerks to insure correctness. The advantages under the proposed plan are not confined to the settling carrier. Waybilling and intermediate carriers may transfer the verified divisional formula, including the divisional code number, to appropriate cards, assort such cards in numerical code number order and thereafter verify the settlements from those cards. On the other hand, a substantial number of the abstracts may be revised through a system of filing together a year's abstracts of like movements. The reduction in time required by rate and division clerks as compared with our present practice is apparent, and the rate of pay of accounting clerks compared with present rates of pay for rate clerks may likewise offer inducement.

2. The second purpose is to eliminate transcribing of rate and divisional information month after month with the attending errors which of necessity occur in the preparation of such a large number of abstracts, and to permit a rapid machine listing without the necessity for operating typing machines. The elimination of the necessity for writing the heading on abstracts and entering waybills on abstracts at several intervals during the month will speed up the preparation of the abstracts to the extent of permitting the recording of waybills on the abstracts after the entire month's waybills have been received.

3. The reason for reducing divisions to cents per hundred, the total of which will equal the through rate, is to facilitate the apportionment of revenue and subse-

quent verification of the interline settlement by each interested carrier. Each carrier's proportion can be computed directly by applying the cents per cwt., without extending the proportion of any other interested carrier, as so many divisional applications now require. Instead of verifying extensions on individual waybills, the proportions due each railroad in cents per hundred will be applied to the total weight of all waybills entered on the abstract, and if the sum of the proportions equals the total freight charges as shown on the abstract, the correctness in transcribing information from waybills to abstracts will be automatically proved as will be the revenue extensions on individual waybills. The number of calculations will be greatly reduced and the apportionment of the revenue will have been proved by one operation, eliminating the possibility of errors. The observation may be timely that carriers, in advocating two figure percentage divisions through all of these years, may not have sought the most economical method of stating divisions from an accounting standpoint, since it will be readily apparent that, with percentage divisions only, many more calculations and verifications are necessary.

Settlements of waybills in this class have heretofore been revised over and over again, consuming the time at each revision required for independent technical review of rate and divisional publications. Correct initial settlements of this class of waybills have usually been made and certainly can be made under the suggested change in procedure. The charts presented indicate the number of waybills which a segregation of this class will take out of interline settlements as a whole and the charts likewise indicate the small remainder of the settlements which will require all of the experience and attention which has heretofore been devoted alike to traffic both easy and difficult to settle.

### Classification "D"

For the interline carload waybills coming under Class "D" it is thought that an abstract identical to that provided for waybills under Classification "C" would be used, but it would be printed on paper of a different color to indicate that divisions had not been agreed to between interested carriers. Under present practices and procedure, it is customary for the settling carrier, in the absence of agreed divisions, to apply the divisions designated by its traffic department. Each carrier with which such settlement is made usually issues statements of differences against the settling carrier, claiming the divisions which its traffic department says are proper. In order to obviate the necessity for issuing statements of differences each month for identical traffic over a long period, and for individual non-recurring movements in this class, it is suggested that the settling carrier state the divisions which it intends to use in exact terms and with the same particularity as has been suggested for waybills coming under Classification "C", the carriers to agree to accept such settlement until such time as divisions are arranged by traffic departments.

This particular traffic will be clearly and definitely ear-marked by the color of the paper upon which the abstract is printed, and the settling carrier must agree that it will not change the divisions from those of record until after full and complete notice of its intention to do so is given each interested carrier. Items classified as "D" under this arrangement will be as simple to settle, and the revenue apportionment as made by the destination carrier as easily verified as those coming under Classification "C". Waybills and abstracts covering this class of traffic should be bound separately in



order to facilitate subsequent adjustments when agreed divisions are determined. The segregation will permit of frequent and complete statements to traffic departments of the amounts involved and should otherwise facilitate final agreements.

#### Classification "E"

It is suggested that there be included in class "E" all waybills which require expert attention because of technicalities incident to the transportation or those which might be involved in the settlement of certain other waybills. There is relatively such a small number of waybills to be included in this class that all carriers will be enabled to devote the time and attention to them which is necessary to insure a correct distribution of revenue. The comparatively small number of waybills involved will permit frequent and complete analysis of them in order to eliminate the difficulties which necessitate their inclusion in Class "E".

Briefly summarizing, the underlying principle of the

proposed plan is to break down the interline settlements into classes so as to permit each class to receive only that clerical attention necessary to a proper audit and subsequent correct settlement, to give audit preference according to the importance of the traffic from a revenue standpoint, and to accomplish this at the lowest possible accounting cost.

Through these many years much progress has been made in freight accounting and we in our turn are engaged in writing the history of freight accounting for this generation. It is needless for me to remind you of the fact that the page we add today to the history of freight accounting will reflect only the thought and effort we are willing to put into it. Anybody's job is nobody's job; we get out of anything only that which we put into it. I am confident, if we will endeavor to give of ourselves unstintingly the time and the high degree of intelligence with which we are credited to the serious and sincere analysis of at least the general principles of the proposed plan, we will then have moved up a rung nearer to the top of the accounting ladder.

## Odds and Ends . . .

#### Human Mail Crane

Leaning from the open door of a speeding railway car and snatching mail pouches by hand off the hooks at stations, such was the feat performed under flood-time emergency by Gene Fisher, Illinois Central train baggage man. Regular train No. 2 was blocked behind a washout, and a substitute train was made up at Cairo, for which no mail car was available. Operators and station agents not having been advised of this fact, mail pouches were hanging out at all stations. Uncle Sam penalizes the railroad ten dollars for every mail pouch it fails to collect. Determined that the Illinois Central should not be penalized every time No. 2 drove through a station, Gene made a mail crane out of himself, hanging out of the car door with one arm and grabbing off the mail pouch with the other. All the way from North Cairo to Centralia, Gene never missed a pouch. Like the Northwest Mounted Police, who always get their man, Gene always got his mail pouch.

#### Use the Railroad

The accompanying illustration is a reproduction of one that appeared on the front page of the Klamath Falls, Ore., News Herald after a recent snowfall. The caption under the photograph called attention to the appropriateness of the message on the Southern Pacific's billboard in the background which says: "Next Time, Try the Train." Nearly 80 of these boards have been placed at strategic points along the highways of Oregon, California and Arizona.

#### Enthusiasts' Library

A library has been made available to the New York division of the Railroad Enthusiasts, Inc., through arrangements made by F. E. Williamson, president, New York Central. It will be in Room 2724, Grand Central Terminal. Already, a number of books and periodicals have been acquired as a nucleus for a reading room for the members. The division unanimously voted to name it The Williamson Library. The library is being created primarily for the benefit of the younger members in order that those who are unable to subscribe to technical and economic publications may read and gain a more fundamental knowledge of railway economics. It is planned to have it open two evenings a week, at first. As the first reading room ever created by railroads for the edification of the large and growing army of railroad "fans," it is expected that the use of The Williamson Library, in which both the New York Central and the New Haven are interested, will be studied carefully.

#### Brittle Rails

Glass rails were proposed for railway service by Friedrich Siemens of Dresden, Germany, back in 1886. He reported that he had succeeded in casting glass in the form of rails which would be no more expensive than iron and would have the advantage of being transparent; hence any flaws could be detected before laying the track. Tests were actually made in the glass factory to see if the glass rails would be suitable for railroad service.

#### A Likely Wench

On the occasion of the formal delivery of locomotive 1400 to R. I. Pearson, vice-president, New York, New Haven & Hartford, Robert S. Binkerd, vice-president of the Baldwin Locomotive Works, waxed poetic at the conclusion of his remarks, as follows:

"So take her, sir, and treat her kindly, and a most likely and lively wench she'll prove to be."

#### Cartoon Collector

Charles L. Howard, patent attorney in Chicago, has an unusual hobby. He collects cartoons dealing with railway subjects. He has several hundred original drawings, all containing some reference to railways, and the remarkable thing about his collection to a railway man is that, in the large majority of instances, the cartoons are correct as to the mechanical detail of the locomotives, cars, etc.

#### Rat Catcher

Recently a towerman on the Great Western of England, in throwing a switch, performed the unusual feat of catching a large rat between the facing points. The Great Western maintains that this is one of the few, if not the only instance, of a switch serving as an animal trap.

#### Dead Shot

Helen Jamieson proved to be best "man" on the small bore rifle team of the Canadian National when shooting recently in international railway matches which included teams from the United States and Great Britain. In four matches, Miss Jamieson, who is in the company's telegraph department dropped only one point to make the outstanding aggregate score of 599 out of a possible 600 points. Many women workers of the Canadian National have taken enthusiastically to this form of recreational activity.



# NEWS

## B. of R. T. Quits R. R. Labor Group

Resigns from labor executives  
association—Favors laws  
rather than bargain

The Brotherhood of Railroad Trainmen has withdrawn its membership in the Railway Labor Executives Association, effective June 3. This action, which takes from the Association the power to represent and speak for the trainmen, is a result of conflicting opinions regarding railway labor matters settled in recent years and was precipitated by the action taken by the Association in negotiating a new pension bill. In the revision of the pension system, the Association, acting for all railway labor, agreed to a plan whereby the employees and the railroads would contribute equal portions of the cost and the balance of the expense would be met by funds transferred from the Social Security Reserve. While the trainmen had approved the Association's procedure whereby its pension committee's action would be binding upon all members, A. F. Whitney, president of the Brotherhood of Railroad Trainmen, took exception to the agreement contending that the railroads should bear the entire cost, that the rate to be paid by the employees is not based upon the actual amount transferred from the Social Security Reserve and because it is not retroactive, does not give full protection to old employees.

The beginning of the break between the Brotherhood of Railroad Trainmen and the Railway Labor Executives Association dates back several years. When the Association accepted a 10 per cent reduction in wages for all employees in January, 1932, following negotiations with railway presidents, Mr. Whitney took the position that the wages of trainmen should not at that time be reduced and introduced into the negotiations a qualifying provision which prolonged deliberation.

In the matter of railroad legislation the Brotherhood of Railroad Trainmen and the Railway Labor Executives Association are at variance, the latter being inclined to refrain from pressing legislation and the former demanding that extended efforts be made to secure its passage. In April, 1937, when George M. Harrison, chairman of the Railway Labor Executives Association and president of the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, made a statement in Washington to the effect that the brotherhoods had agreed to attempt conciliation of their legislative proposals

by conference-table negotiations, Mr. Whitney took issue, contending that Mr. Harrison had no authority to speak for the trainmen. He said the legislative department of the trainmen's brotherhood will continue to foster legislation and is primarily interested in the passage of the full crew bill and to a lesser extent in the six-hour day and the train limit bills.

Politics within the Association have also played an important role. For years the Big Five brotherhoods have controlled its policies with the result that they have benefited to a greater extent than the remaining non-operating brotherhoods. A radical change in this situation occurred when Mr. Harrison was elected chairman to succeed Mr. Whitney.

With the new leadership, attempts were made to reduce the much contested differential between the wages of operating and non-operating employees. As a result, joint action in the present demands for increased wages was thwarted because the operating brotherhoods would not agree to a higher rate of increase for non-operating employees. The non-operating brotherhoods then decided to act alone and demanded increases of 20 cents an hour, following which the Big Five brotherhoods demanded a 20 per cent raise in basic pay.

### The "Century" Has a Birthday

The Twentieth Century Limited, famous New York-Chicago train of the New York Central, celebrated its 35th birthday on June 15. Inaugurated in 1902 as "The Twentieth Century Train", according to a contemporary issue of the *Railway Gazette*, running jointly over the New York Central & Hudson River and the Lake Shore & Michigan Southern on a 20-hour schedule, the time of the train has since been cut in successive stages to the present schedule of 16½ hours.

### Truckers Place Embargo on Shipments to Omaha

Because of labor difficulties in Omaha, Neb., leading highway trucking companies at Chicago have declared an embargo on truck merchandise moving to the Nebraska cities and intervening transfer points. The embargo notice, which was posted on June 14, reads as follows:

"Owing to the fact that all local truck drivers in Omaha, Neb., are out on strike, we are forced to decline freight consigned to Omaha and Lincoln, Neb., Council Bluffs, Iowa, and other points where shipments are transferred en route at the aforementioned points. The entire trucking industry at those points is tied up—hence this action is necessary. This embargo will remain in effect until further notice."

## Final Argument on Rate Change

R. V. Fletcher says more revenue  
needed without refer-  
ence to wage move

Contending that the railroads would not receive more than \$54,000,000 a year from that portion of the proposed rates in Ex Parte 115 which the railroads are asking the Interstate Commerce Commission to pass upon at the present time and pointing out to the commission that the operating expenses of the carriers will be \$550,000,000 more in 1937 than they were in 1933, Judge R. V. Fletcher, general counsel for the Association of American Railroads, began the final argument on the general rate advance case before the full commission on June 16. Assisting the commission were the following state commissioners: J. J. Murphy of South Dakota, Hugh White of Alabama, Nelson Lee Smith of New Hampshire, Moie Cook of Indiana, and H. W. Scott of South Carolina. Judge Fletcher opened his two hour argument by sketching briefly the history of this case and then going on to tell the commission that the railroads have estimated that the total amount of revenue which might be received from all commodities in the case would not exceed \$80,000,000 to \$90,000,000 and that the revenue which will probably be received from the proposed rates which are being directly considered by the commission at this time, exclusive of the increases asked for in Mountain-Pacific territory, will be in the vicinity of \$54,000,000. Of this total, he said that coal and coke would yield about \$31,300,000; iron ore about \$4,275,000, and the balance to be made up of increased charges on cement, oil, and iron and steel. The increases on coal would average about eight cents a ton, he said, about 12 cents a ton on iron ore, and about 20 cents a ton on the other commodities. Judge Fletcher went on to say that the carriers believe that these articles can bear increased charges and that they base their belief on the experience they have had with two years of surcharges.

Taking up the question of whether or not this case came under the classification of a revenue or a rate case, Judge Fletcher remarked that the revenue feature was present as in all cases and quoted a former commissioner to show that the revenue feature was present in all rate cases and must be considered as such. He also asserted that this case was not an emergency

(Continued on page 1033)

## I.C.C. Demands Power Reverse

All new locomotives must have it after Sept. 1, and old engines by 1942

Holding that "the use on steam locomotives of manually-operated reverse gear, as compared with power reverse gear, causes unnecessary peril to life or limb, and that the safety of employees and travelers on railroads requires that suitable power-operated reverse gear shall be substituted for manually-operated reverse gear," the Interstate Commerce Commission, speaking through Commissioner McManamy, on June 14, issued an order requiring the installation of power reverse gear on all new steam locomotives built after September 1, and further specifying that all steam locomotives used in road service built prior to September 1, which weigh on driving wheels 150,000 lbs. or more, and all steam locomotives used in switching service built prior to September 1, which weigh on driving wheels 130,000 lbs. or more, shall have a suitable type of power-operated reverse gear applied the first time after September 1 that these locomotives are given repairs defined by the United States Railroad Administration as class 3 or heavier. The order goes further to say that all such locomotives shall be so equipped before September 1, 1942. In installations where steam connections to air operated power reverse gear are used, the operating valves shall be conveniently located in the cab of the locomotive and so arranged and maintained that in case of air failure steam may be quickly used to operate the reverse gear.

Taking cognizance of the appeal of the railroads to have the commission drop the case in view of the fact that 131 of the carriers have entered into agreements with the Brotherhood of Locomotive Engineers, Commissioner McManamy said that "Our failure to establish a rule to provide for the removal of appliances which we find cause unnecessary peril to life or limb, and to substitute therefor appliances which we find promote the safety of employees and travelers by rail, would be an evasion of one of the important duties placed by statute upon us. Should we fail to establish a rule, and if the 131 defendant carriers later made agreements with their employees which would result in the removal of manual reverse gear, and the substitution therefor of power reverse gear, a condition would result whereby approximately 800 of the original defendants, some of which are class I carriers, representing about 86 per cent numerically and operating several thousand locomotives, would be without any direction from us as to what they should or should not do in this respect."

The report goes on to say that "While it is true that a very great majority of those 800 roads are short lines, many of which own or operate few locomotives, yet the public interest involved in this proceeding, and the interest of the employees and the public served by those roads,

compel us to make our findings and such orders as are necessary in compliance with the statute." The commissioner also pointed out that much money and time had been spent on the part of the commission in developing an extensive record and that the general public and all of the parties are entitled to be informed of the conclusions reached.

The report estimates the cost of installation of power reverse gear on locomotives that do not now have it at about \$5,000,000. The commission does not feel that the cost of equipping these locomotives will be unduly burdensome to the carriers, for, as the report says, "the record justifies a conclusion that the additional cost of equipping with power reverse gear a locomotive receiving class 1, 2, or 3 repairs is negligible."

### House and Senate Committees Approve Pension Bill

The House Committee on Interstate and Foreign Commerce on June 15 approved the Crosser railway pension bill and ordered it reported to the House immediately. Chairman Lea said that he would ask a special order for it in a few days. The Senate has already approved a similar bill in committee and it is awaiting action on the floor.

### Richberg for Supreme Court?

The Brotherhood of Locomotive Firemen and Enginemen, at a meeting at Milwaukee, Wis., on June 9, approved a resolution recommending the appointment of Donald R. Richberg to the United States Supreme Court. The resolution described Richberg as "a man who has been associated with the problems of the workers and the masses generally and commands the respect of all classes for his fairness, his fine character, and his ingenious knowledge of the law."

### Preliminary Reports Show Operating Revenues Up

Preliminary reports from 88 Class I railroads, representing 81.7 per cent of total operating revenues just received and made public by the Association of American Railroads, show that those railroads, in May, 1937, had estimated operating revenues amounting to \$284,140,831 compared with \$262,248,226 in the same month of 1936 and \$378,528,756 in the same month of 1930. Operating revenues of those roads in May, 1937, were 8.3 per cent above those for May, 1936, but 24.9 per cent below May, 1930. Freight revenues of the 88 Class I railroads in May, 1937, amounted to \$230,634,080 compared with \$213,517,207 in May, 1936, and \$290,851,226 in May, 1930. Freight revenues in May, 1937, were 8.0 per cent above the same month of 1936, but 20.7 per cent below the same month in 1930. Passenger revenues in May, 1937, according to these preliminary reports from 88 Class I railroads, totaled \$28,355,289, compared with \$23,300,869 in May, 1936, and \$50,742,167 in May, 1930. For the month of May, 1937, they were 12.1 per cent above the same month of 1936, but 44.1 per cent below the same month in 1930.

## I.C.C. to Control C. & D. Operations

Holds that c. and d. trucks are "contract carriers"—Eastman strongly dissents

Division 5 of the Interstate Commerce Commission, in a lengthy decision handed down on June 12, decided that a railroad-owned trucking company doing pick-up and delivery service for a railroad is not to be placed in the same category, so far as regulation is concerned, as the railroad itself. This test case which involved the activities of Scott Brothers, a New York trucking firm which is doing the pick-up and delivery work for the Pennsylvania and the Long Island, has aroused a great deal of interest among railroad men and the trucking interests, and the decision will clarify certain provisions of the Motor Carrier Act. Commissioner Eastman, who dissented from the majority in this case, attached a short memorandum to the case in which he said that the case dealt, among other things, with "certain important and difficult questions of statutory construction in connection with the Motor Carrier Act." He went on to say that when the case was argued before the Division, four different counsels expressed four different opinions as to the meaning of the statute in question. He also hinted that the case might be reviewed by the whole commission, in which case they would have the benefit of the views expressed in the report together with the comments and criticisms which would be presented in the briefs.

Scott Brothers, the applicant in this case, is controlled, through ownership of its stock, by the American Contract & Trust Company, a wholly-owned subsidiary of the Pennsylvania and conducts extensive motor carrier operations within and between the New York-Philadelphia metropolitan areas and in the intermediate territory. The report points out that since 1933, collection and delivery service between stations of the Pennsylvania and the Long Island and the establishments of shippers or consignees within the New York-Jersey City areas has been performed by six independent motor carriers under contracts terminable on 30 days' notice. The proposed operation would be supplementary to or in substitution for the service of these independent carriers and would be carried on under contracts between the applicant and the rail carriers. The trucking concern would not publish tariffs and would not be a party to the rail tariffs.

Counsel for the Western carriers, who intervened in the case, contended that the commission had always held that collection and delivery service of railroads was subject to regulation under Part I of the Interstate Commerce Act, and that therefore, motor truck operators proposing to perform such service for railroads were exempt from the requirements of Part II relating to common or contract carriers by motor vehicle. The majority of Division 5, held that the commission had no authority under Part I in view of the fact



that the railroads were not required to furnish this type of service as a part of their duty as a common carrier. "Under the circumstances," the report said, "if the rail carrier voluntarily undertook to provide such services, it cannot reasonably be said that any 'motor vehicle operations' were ever subject to Part I." The report goes on to say that "the contention of the western rail carriers, if sustained, would exempt from our jurisdiction all motor carrier operations by or for rail carriers in terminal districts."

After deciding that Scott Brothers were carriers by motor vehicle and therefore subject to regulation under Section II of the Act, the majority had to decide whether the trucking concern was a common carrier as was the railroad who virtually owned it, or a contract carrier. After reviewing the facts of the case, the majority decided that since Scott Brothers did not hold out their services to the public and did not publish tariffs or share in the tariffs of its parents, the Pennsylvania and the Long Island, and would not be known to the public as a common carrier, they fell in the category of contract carriers.

As a condition precedent to the granting of the application of this firm to do pick-up and delivery work for the Pennsylvania and Long Island, the Division decided that the Pennsylvania must first directly acquire the interest in Scott Brothers which is now held by the American Contract & Trust Company in order that one holding company may be eliminated. The commission imposed the same conditions on the Pennsylvania when it sought to have the Barker Motor Freight Company obtain a permit from the commission. The Pennsylvania controlled the Barker company in the same manner that it controls the Scott Brothers firm.

Commissioner Eastman, in a lengthy dissent, held that the trucking firms which did pick-up and delivery service should not be regulated under the Motor Carrier Act, but should be treated in the same manner as the railroads. He said that he felt that if any abuses should creep in, the commission had ample power over the railroads to correct them.

### Canadian Executive Honored

S. J. Hungerford, president and chairman of the board of the Canadian National, was the recipient of two engineering honors this week. On June 14, the University of Vermont at Burlington, Vt., conferred upon him the honorary degree of mechanical engineer in recognition of his work in restoring the Central Vermont, a Canadian National subsidiary, after the flood of 1927. On June 15 he received an honorary membership in the Engineering Institute of Canada at Montreal, Que.

### N. & W. Veterans Elect Officers

At the sixth annual convention of the Norfolk & Western veterans in Roanoke, Va., on June 16, the following officers were elected: L. C. Ayers, general superintendent of the eastern general division, president; R. P. Phenix, conductor, Norfolk division, first vice-president; J. S. Mastin, road foreman of engines, Pocahontas division,

second vice-president; Floyd E. Chabot, assistant editor of the Norfolk & Western magazine, permanent secretary-treasurer; C. L. Littel, locomotive engineer, Scioto division, and J. W. Kerlin, machinist, Shaffers crossing, association councilors. R. J. Snapp, the retiring president, was presented with the past president's medal by W. B. Carter, himself a retired president.

### Missouri Pacific to Run New Fast Train to Mexico City

On July 4 the Missouri Pacific will place in service a new high-speed train, to be known as the City of Mexico, between St. Louis and Mexico City. The new train, running once a week, will leave St. Louis on Sundays at 5:30 p.m., arriving at San Antonio, Tex., the following afternoon at 1:55 and at Mexico City at 3:55 the second afternoon. Thus, the new train will leave St. Louis on the present schedule of the Sunshine Special, which it supplements, and will get into Mexico City 6 hr. 40 min., earlier than the present scheduled arrival of the Sunshine Special. Northbound the new train will leave Mexico City at noon on Thursday and will arrive at St. Louis at 6:30 p.m. on the third day.

### Exit Manhattan Transfer!

Effective June 20 the Hudson & Manhattan, electric rapid transit line operating between New York and Newark, N. J., in its own subway and by trackage rights over the Pennsylvania, will abandon its Newark terminus at Park Place and operate trains to the new Market street station of the Pennsylvania, where complete terminal facilities have been provided for its trains. Simultaneously, there will be effective abandonment of Manhattan Transfer, Harrison, N. J., where the change from steam to electric traction on Pennsylvania trains was made prior to complete electrification of the line between New York and Washington, D. C., and where Pennsylvania passengers for downtown, New York, now change trains. This interchange will henceforth be effected at the Newark

Station. The elimination of the stop at Manhattan Transfer will effect a saving in the time of Pennsylvania trains between New York and Newark.

### Commission Warns of Delay In C. O. D. Collections

On June 12 the Interstate Commerce Commission announced that numerous complaints have been received to the effect that common carriers of property by motor vehicle are not making prompt remittances to shippers of C. O. D. collections. Any such common carrier may, if he chooses, render C. O. D. service to shippers. However, if the carrier elects to perform that service, he must publish in tariff form the charges therefor and all rules and regulations governing the service. One of such rules must prescribe a definite time after collection when C. O. D. money will be remitted to the shipper.

Shippers may, if they choose, use the C. O. D. services of carriers who have made proper tariff provision therefor, but should not permit others who have not made such provision to handle their C. O. D. collections. A shipper may not require security from the carrier running to the individual shipper for faithful performance of the C. O. D. undertaking, but of course is free to protect himself by procuring insurance or other security at his own expense if he sees fit. A carrier who performs C. O. D. service under a proper tariff provision is subject to the penalties of the Motor Carrier Act for violation of any part of such tariff provision, but the Commission has no jurisdiction and will not attempt to enforce collection on unpaid C. O. D. funds from carriers.

### Baldwin "Open House" for Fans

The Baldwin Locomotive Works, Eddystone, Pa., was host to 360 railroading devotees from New York on Sunday, June 13. Sponsored by the Central of New Jersey, the Railway & Locomotive Historical Society—New York chapter, and "Railroad Stories" magazine, the excursion included a round-trip over the so-called "Royal Blue" route between Jersey City, N. J., and



The Old and the New Compete for Interest at Baldwin's



Philadelphia, Pa., via the Central of New Jersey and Reading and a short run over the Baltimore & Ohio south to the plant, luncheon in the Baldwin cafeteria, and an inspection of the boiler shop, main erecting bay, and various motive power units spotted in the yard for the convenience of engine picture collectors. The latter exhibits included a new 0-10-2 ("Union" type) switcher ready for the Union road, a 4-8-2 freight locomotive for the Boston & Maine, an articulated oil-burner for the Southern Pacific, with cab at the head-end for use in the Sierra-Nevadas, and a replica of "Old Ironsides," Matthias W. Baldwin's first product.

The locomotive company distributed a large folder containing detail photographs of various prototypes of modern steam power and, together with the railroad company, published a special souvenir booklet containing an operating timetable for the special run, providing blank spaces for insertion of the "O.S." times at each station and interlocking point. The issue included, also, greetings by E. W. Scheer, president of the Central of New Jersey and Reading, and G. H. Houston, president of the Baldwin Locomotive Works, locomotive rosters of the two railroads, a plan of the locomotive works, and a running commentary on the route.

### New Haven Buys New Electrics

Six new streamlined electric passenger locomotives, more powerful than any of the 53 already in operation between New York and New Haven, Conn., have recently been ordered by the New Haven. They will be built in the General Electric plant at Erie, Pa., and have been designed for the hauling of 15-car trains weighing as much as 1,200 tons, at the high speeds required by present schedules. Authority for the railroad to purchase the locomotives was granted by the U. S. District Court several weeks ago.

The new streamlined engines will weigh approximately 430,000 pounds apiece, will have 3,600 horsepower, and will be capable of a speed of over 80 miles an hour. Power will be supplied by six motors on as many driving axles, each motor having two armatures geared to the one axle.

In order that they may be operated either from Grand Central Terminal or

the Pennsylvania Station in New York, the motors will be equipped to draw current either from a third rail supplying 600 volts d.c., which is used in the Grand Central Terminal area, or from the overhead wires of the New Haven electrification supplying 11,000 volts, 25 cycles a.c., which is then stepped down to suitable operating voltage. The order for these locomotives was reported in the *Railway Age* of June 12.

### Contracts of Contract Carriers

The Interstate Commerce Commission has issued an order requiring contract truckers to file by July 15 a true copy of each of their contracts for transportation service in interstate or foreign commerce. The decision also vacates a previous order which would have required, in addition to the filing, the publication and posting of the contracts.

Commissioner Porter, in concurring, noted that he did so on the assumption that the commission has the right to require contract carriers to have their contracts in writing. Should that question come before the commission he does not wish to be bound by anything in the present decision. Similarly Commissioner Lee concurred except to the extent that the present decision indicates approval of the recent order requiring the written contracts, to which he dissented. Commissioners Aitchison and Splawn did not participate in the disposition of the case.

### C. B. & Q Inaugurates "Buffalo Bill"

A new train, to be known as "Buffalo Bill," will be placed in service for the summer months by the Chicago, Burlington & Quincy between Denver, Colo., and Cody, Wyo., on June 22, to provide supplementary service to Yellowstone National Park. The train will leave Denver at 4 p. m. and arrive at Cody at 11 o'clock the following morning, while returning, it will leave Cody at 7:45 p. m. and arrive in Denver at 1 p. m.

The inauguration of this train will be preceded by a Denver Chamber of Commerce luncheon and a parade of Junior Buffalo Bills, stage coaches, covered wagons, pony express riders, cowboys and scouts. Jane and Fred Garlow, grandchildren of Col. Cody, will participate in

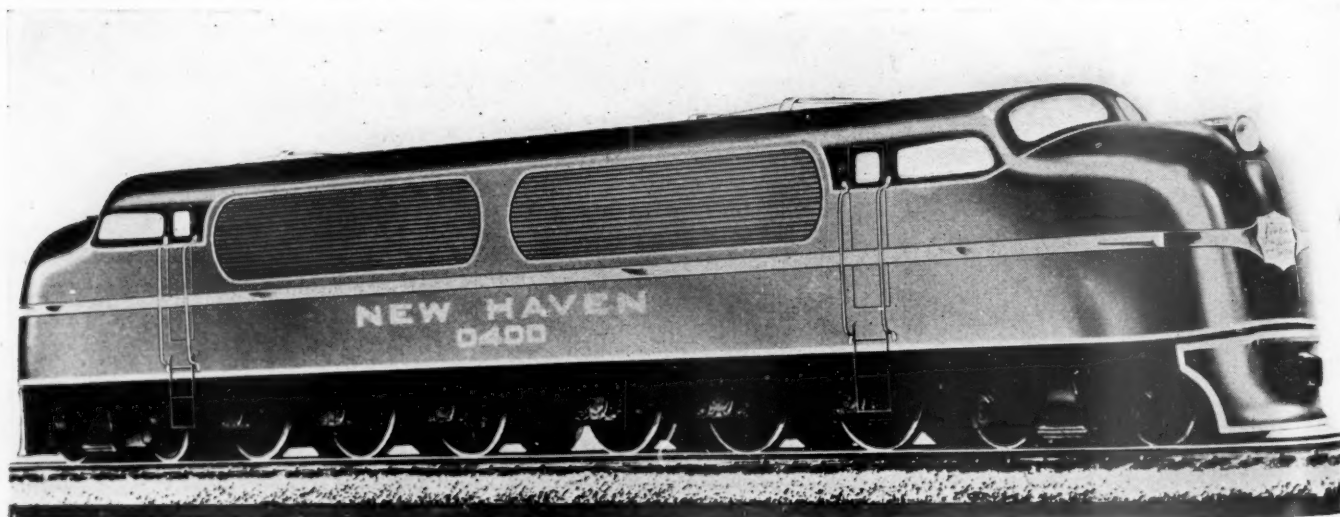
the christening exercises, it being proposed that the conventional bottle of champagne be released by rifle shots aimed by the descendants of the great scout. When the train pulls out of the Denver Union Station for its first run to Cody, notables will go along to participate in a celebration at noon on the following day. Coincidentally an anniversary of the foundation of the Cody Museum will be signalized and all the surviving relatives of Col. Cody now in the United States will participate.

### Jones Approves D. & R. G. W. Reorganization Plan

The Reconstruction Finance Corporation on June 15 announced that it would forego its demand for consolidation of the Western Pacific and the Denver & Rio Grande Western and would approve a plan of reorganization of the D. & R. G. W. which was submitted to the Interstate Commerce Commission by Col. Henry W. Anderson, counsel for the Insurance Group Committee. The R. F. C. also agreed to loan \$11,443,675 to refund the outstanding first mortgage bonds and income 6's of the Denver & Salt Lake. This information was contained in a letter from Jesse Jones, chairman of the R. F. C. to Col. Henry W. Anderson.

The plan, as submitted to the commission when hearings were resumed on June 15, would eliminate the present common stock of the D. & R. G. W., of which the Missouri Pacific and Western Pacific each owns half, thus ending their control, and would give each road warrants to buy each one-quarter of the reorganized road's stock. The rest of the stock could then be sold to some other road.

The R. F. C. conditioned its approval of the plan with a threat to take over and operate the Denver and Salt Lake as a separate property unless this road's securities are properly treated in the reorganization. The R. F. C. now holds as collateral for loans made to the D. & R. G. W. the capital stock of the D. & S. L. Later in the hearing, John W. Barriger, chief of the railroad division of the R. F. C. testified that if the Denver and Salt Lake securities were not given proper consideration in the reorganization, the R. F. C. saw no reason for not taking the road over and



New Haven Orders Streamline Electric Power

operating it. He said that the Denver & Salt Lake with the Dotsero cut-off could be operated profitably as a separate property.

The insurance group's plan provides for annual fixed charges of \$2,669,673 and contingent charges of \$1,262,340.

### Freight Car Loading

Loading of revenue freight for the week ended June 5 totaled 692,140 cars, a decrease of 102,715 cars or 12.9 per cent below the preceding week, a decrease of 3,704 cars, or one-half of one per cent below the corresponding week in 1936, but an increase of 62,428 cars or 9.9 per cent above the corresponding week in 1935. The loading for the week was reduced due to the inclusion of the Memorial Day holiday. Both 1936 and 1935 did not include the holiday. All commodity classifications showed decreases under the preceding week, while all commodity classifications except live stock and grain showed increases over last year. The summary, as compiled by the Car Service Division Association of American Railroads, follows:

#### Revenue Freight Car Loading

For Week Ended Saturday, June 5

Districts	1937	1936	1935
Eastern .....	141,742	149,698	144,857
Allegheny .....	143,460	137,140	128,835
Poconongas .....	45,439	46,232	48,387
Southern .....	99,564	94,488	90,452
Northwestern .....	119,094	115,730	87,491
Central Western .....	93,136	97,139	83,408
Southwestern .....	49,705	55,417	46,282
Total Western Districts ...	261,935	268,286	217,181
Total All Roads	692,140	695,844	629,712
Commodities			
Grain and Grain Products ..	22,486	31,672	24,514
Live Stock ..	10,461	11,802	10,911
Coal .....	104,804	102,549	141,019
Coke .....	9,422	8,309	5,735
Forest Products ..	37,637	34,762	25,819
Ore .....	73,406	52,137	32,398
Merchandise ..	149,128	165,058	156,891
L.C.L. ....	284,796	289,555	232,425
Miscellaneous ..			
June 5 .....	692,140	695,844	629,712
May 29 .....	794,855	646,812	562,682
May 22 .....	779,276	683,590	598,396
May 15 .....	773,669	681,408	582,950
May 8 .....	767,481	668,866	575,020
Cumulative Total, 23 Weeks ..	16,643,724	14,492,896	13,324,706

**Car Loading in Canada.**—Car loadings for the week ended June 5 totaled 48,265, as against 40,321 a year ago and 44,240 cars for the previous week, according to the statement of the Dominion Statistics Bureau.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
June 5, 1937 .....	48,265	24,516
May 29, 1937 .....	44,240	27,405
May 22, 1937 .....	50,219	28,379
May 30, 1936 .....	40,321	23,776
Cumulative Totals for Canada:		
June 5, 1937 .....	1,042,247	625,486
May 30, 1936 .....	942,255	521,349
June 1, 1935 .....	935,411	495,522

### National Advisory Board President Outlines Plans

Charles Donley, president of the National Association of Advisory Boards, a body formed at Chicago in February to constitute a national agent for the 13 regional shippers advisory organizations, comments on the new aims of the association

in the latest issue of "Highlights," its official organ. Pointing out that the national body should correlate the activities of the various regional boards without destroying sectional individuality, he refers to the establishment of relations with the railroads, proposing that an executive committee be formed, composed of the current general chairman of each regional board, in addition to the national organization, to maintain contact with the district managers of the Association of American Railroads.

### Loudspeakers to Control Crowds In British Stations

Portable loudspeaker units, for controlling football, racing or holiday crowds at important stations, have recently been brought into use by the Great Western (Great Britain). Each unit is composed of six loudspeakers, on stands, arranged in two circuits, with individual or simultaneous control. The equipment will be operated by station staffs.

### July Safety Poster of A. A. R.

Presenting directions to freight brakemen concerning proper body-position for winding hand brakes in yard service, the July poster of the Safety Section, Association of American Railroads, is ready for distribution. The illustrated portion of the broadside depicts the safe stance to be assumed in working the brake-wheel from the brake-board and the proper way to reach that position from the end ladder.

### Roads Seek to Restrain Pennsylvania Full-Crew Law

On Monday, June 21, ten major railroads operating in Pennsylvania will open equity proceedings at the Court of Common Pleas, Harrisburg, Pa., in the effort to restrain permanently the Pennsylvania Public Utility Commission and the state attorney-general from enforcing the "full" crew bill passed by the legislature at the end of May and signed by Governor Earle on June 1. Opposition to the bill was initiated by the Pennsylvania which, on June 2, filed at Harrisburg a petition for

a temporary injunction against the bill, which was granted by Judge Hargest. The rest of the roads filed like petitions several days after, and received similar injunctions. These are returnable on June 21, at which time there will begin hearings for permanent restraint of the law.

The complainants will supplement their briefs with testimony showing in the main that the contested bill violates the state constitution by levying "unreasonable and confiscatory" burdens on the carriers without purpose, since, as the roads argue, the forced enlargement of train crews will in no way contribute to safety, as the makers of the bill allege. Further, they assert that such a law violates the Federal Constitution, in that it pre-empts the right of Congress to control interstate commerce. Lastly, they point out violation of the "due process of law" clause of the Federal Constitution in the efforts of the state to deprive the railroads of their lawful property without proven or sufficient cause therefore.

The roads filing briefs in the case are the Pennsylvania, the Reading, the Central of New Jersey, the Delaware & Hudson, the New York Central, the Western Maryland, the Baltimore & Ohio, the Erie, the Lehigh Valley, and the Delaware, Lackawanna & Western.

### Final Argument On Rate Change

(Continued from page 1029)

case and the railroads were asking for a permanent rate. He said that he felt prices had entered a plateau and that it would be well to stabilize rates for some time to come.

Commissioner Eastman interrupted Judge Fletcher to ask whether or not the railroads had considered the possibility of wage increases in computing the figure of \$550,000,000 as the increased operating cost for this year as compared with 1933. He replied that they had not given any consideration to this question and that the outcome of this case will have no effect on the wage controversy. The general counsel for the railroads also complained of the



Atlanta, Ga., Students Glean First Hand Information on the S. A. L.'s "Robert E. Lee"



increased cost of taxes and showed that the railroads would have to pay an additional two per cent this year for unemployment relief under the Social Security law and  $2\frac{3}{4}$  per cent for the Pension tax when that law is passed. He also said that he felt he was speaking to sympathetic ears when he severely criticized the surtax on undistributed income. Previously the commission had notified the President that they feared the effect of this tax as applied to railroads. Commissioner Splawn asked Judge Fletcher whether or not the social security taxes could be passed on to the public. He said he did not feel that this was a legal question and would not like to express an opinion on the subject.

Commenting upon the car situation, Mr. Fletcher pointed out that the need for new cars and locomotives is urgent and reminded the commission that the railroads needed this increased income to purchase new equipment. Closing his argument, Judge Fletcher said that the railroads had three obligations which they should perform: an obligation to the public to provide the best and cheapest form of transportation that they can with their equipment; an obligation to their employees to furnish the best working conditions that they can; and an obligation to the creditors and stockholders to pay a dividend on the investment. The railroads, he concluded, were justly proud of their labor record and the fine relationship that exists between the management and labor organizations. As a final plea, Judge Fletcher asked the commission to let the railroad managers use their own discretion as to whether or not these proposed rates will bring in more revenue than the present rates. Certainly, he said, the railroads will not defeat their own purposes by keeping high rates on certain commodities and thus retarding their movement, or forcing them to be moved by some other form of transportation.

Guernsey Orcutt, general attorney of the Pennsylvania, appeared for the railroads in behalf of the proposed increased rates on coal and stressed the fact that any changes in coal rates in Central Freight Association or Trunk Line territory would force the railroads to make changes in the Pochahantas district due to the existing finely-balanced rate structure in this territory. He said that the railroads had been criticized by the coal operators for attempting to increase rates on the Pochahantas lines when these roads were making a good return, but he went on to show that nothing else could be done in view of the existing situation. He also remarked that the railroads did not feel that because a road was out of bankruptcy it should be denied an increase in rates.

Oral argument is scheduled to continue for five days, from June 16 to 21. On June 14 the record was brought up to date by witnesses for the various parties in interest. E. B. Gordon appeared for the National Bituminous Coal Commission and presented a brief which purported to show that the proposed increases in coal rates would be detrimental to the soft coal industry. Dr. Julius H. Parmelee, director of the Bureau of Railway

Economics of the Association of American Railroads, told the commission that full crew bills had been passed in Indiana, Pennsylvania, and New York and that the law in Pennsylvania was being contested in the courts. He also mentioned a 70 car train limit bill which was enacted into law in Oklahoma this year. He estimated that the extra cost of these laws, if sustained, would be in the vicinity of \$15,000,000 a year to the carriers. J. M. Symes, vice-president in charge of the operations and maintenance department of the A.A.R. told the commission that the carriers will have to not only purchase more freight cars, but will have to enlarge their shop facilities to take care of the cars now needing repairs.

Charles E. Bell, traffic analyst, appeared for the shippers and attempted to show that the railroads have received \$48,000,000 more in four months of this year in net operating income than they did in the same period last year, despite the fact that they had only asked for an increase of \$52,000,000 for the whole year.

## Supply Trade

**C. C. Connolly**, special engineer of the New York, Chicago & St. Louis, has resigned to become associated with the **American Fork & Hoe Company** as its eastern representative, with headquarters at New York, effective June 1.

**Martin Buehler**, manager of the Minneapolis, Minn., branch of the **Graybar Electric Company, Inc.**, New York, has been appointed manager of the Dallas, Texas, branch and **Earl Sharpe**, assistant manager, has been appointed manager at Minneapolis.

**Robert W. Dierker** has been appointed manager of sales and **Gerald J. Garvey** assistant manager of sales of the **Gary Screw and Bolt Company**, Chicago. Both have been connected with the sales department of the company for a number of years.

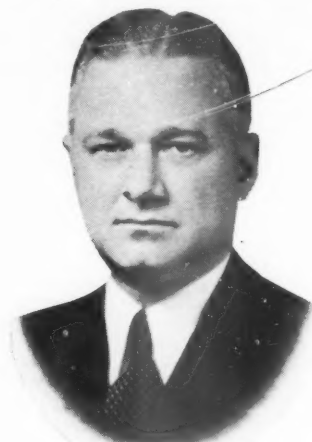
**Elmer J. Kopf**, manager of advertising and sales promotion of the **Union Drawn Steel Company**, Massillon, Ohio, a subsidiary of the **Republic Steel Corporation**, Cleveland, Ohio, has joined the staff of the Advertising division of the latter company. Mr. Kopf will continue to handle the advertising and sales promotion activities of the Union Drawn Steel Company.

**Samuel B. Robertson**, in railroad service for many years, was recently elected president of the **B. F. Goodrich Company**, Akron, Ohio, to succeed **James D. Tew**, who has retired. Upon graduation from Massachusetts Institute of Technology in 1899, Mr. Robertson entered service with the Pennsylvania and, after a period as division engineer, was promoted to general superintendent of the central division. Leaving railroad service, he joined Good-

rich in 1919 and soon became the company's director of engineering. In 1928 he was made president and general manager of the Los Angeles, Cal., plant, continuing in that capacity until September 9, 1931, when he returned to Akron as vice-president and general manager of the tire division. He was elected a director of the company and chosen executive vice-president in February, 1937.

**The Dampney Company of America**, Hyde Park, Boston, Mass., has opened a branch office in the Citizens and Southern National Bank building, Atlanta, Ga., in charge of **Ray W. Carter**, as southeastern district representative. Mr. Carter, for the past six years, was in charge of the New York office; **L. W. MacLean** of the Philadelphia, Pa., office has been transferred to New York.

**H. B. Spackman**, who has been appointed general sales manager of **Lyon Metal Products, Incorporated**, Aurora, Ill., entered the employ of this company after 18 years experience in the metal fabrication industry. For nine years he was connected with the Northwestern Expanded Metal Company as a salesman and



H. B. Spackman

later as assistant general sales manager. Upon resigning from this company he entered the employ of the U. S. Gypsum Company, where he developed a steel equipment division for the marketing of building material specialties. He resigned as general sales manager of the steel products division of the U. S. Gypsum Company to become general sales manager of **Lyon Metal Products, Inc.**, in which capacity he will have supervision over all sales activities, including advertising and sales promotion.

## TRADE PUBLICATIONS

**SNAP-ON MOULDINGS.**—A 12-page catalog, showing a variety of stainless steel "Snap-On" mouldings for decorative treatment on trucks, refrigerators, air-conditioned units, furniture and other items, has been issued by the **Pyramid Metals Company**, 455 North Oakley boulevard, Chicago.

**GUIDE BOOK FOR SHEET METAL WORKERS.**—The United States Steel Corporation has issued a data book of 64 pages con-



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cerning weights, dimensions and other pertinent facts of galvanized, black, terne and stainless steel sheets, together with useful information relating to the more common uses of these materials. Half-tone illustrations depict operations in the fabrication and application of the sheets to various uses.

**WROUGHT-STEEL WHEELS AND AXLES.**—A symbolic replica of a wrought steel wheel is embossed on the front cover of a book entitled "USS Wrought-Steel Wheels and Axles," issued by the United States Steel Corporation Subsidiaries, 434 Fifth avenue, Pittsburgh, Pa. The book is addressed to "The Safest Carrier in the World"—the railroads of today—and contains sections on wheels for steam railway service, wheels for electric railway service and forged-steel axles.

**CONCRETE JOIST DATA.**—The Universal Atlas Cement Company, Chicago, is distributing a set of 12 concrete joist-spacing scales and design tables for the rapid and convenient design of solid concrete one-way slabs, precast joists, cast-in-place floors containing spaces between joists filled with hollow tile, and joists cast in place on metal forms. These data, which are intended for designers of buildings, contractors, etc., are printed on two sides of six stiff cardboards, 4 in. by 15 in., and enclosed in a special envelope.

## Construction

**CHICAGO & NORTH WESTERN.**—A contract has been awarded to the Graver Tank & Manufacturing Corporation, East Chicago, Ind., for furnishing and installing a 150,000-gal. storage tank, a 50,000-gal. treating tank and other necessary treating plank equipment at Boone, Iowa. A contract has been awarded to Peppard & Burrill, Minneapolis, Minn., for the work of pouring reinforced concrete caps and placing a number of reinforced concrete slabs on nine bridges on the Southern Illinois division.

**CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.**—A contract has been awarded to the K. M. Construction Company, Dubuque, Iowa, for the construction of the concrete abutments for a 75-ft. vertical lift span across the Portage canal, Portage, Wis.

**DELAWARE & HUDSON.**—The New York Public Service Commission has approved a low bid of \$66,431 covering the elimination of the West Maple street and the Kelly and the Corinth station road crossings of this line in the village of Corinth, N. Y. The low bid was submitted by S. A. Scullen, Inc., Cohoes, N. Y., and was the lowest of six received for the work.

**VIRGINIAN.**—A contract has been awarded to the Ross & White Company, Chicago, for furnishing and installing at Elmore, W. Va., two N & W type electric cinder-handling plants.

**MISSOURI PACIFIC.**—A contract has been awarded to the S. Patti Construction Company, Kansas City, Mo., for making alterations and constructing an addition to this company's storehouse building in the East Bottoms district of Kansas City.

## Equipment and Supplies

### FREIGHT CARS

**THE SEABOARD AIR LINE** has ordered 200 auto box cars of 50 tons' capacity from the Pullman-Standard Car Manufacturing Company.

**THE UNITED STATES SUGAR CORPORATION** has ordered 60 cane cars, of 30 tons' capacity, from the Magor Car Corporation.

### PASSENGER CARS

**THE CANADIAN NATIONAL** has ordered 10 mail and express cars from the Canadian Car & Foundry Company.

### IRON AND STEEL

**THE ST. LOUIS SOUTHWESTERN** has been authorized by the federal district court of St. Louis, Mo., to purchase and install new 112-lb. rail on approximately 23 miles of main line in Southwest Missouri at a total cost of \$374,545.

**SEABOARD AIR LINE.**—Orders have been placed and deliveries are expected sometime this month for 10,000 tons of new 100-lb. steel rail and track fastenings. The orders were placed with the Tennessee Coal, Iron & Railroad Company, to be manufactured at that company's Fairfield plant at Birmingham, Ala., and with the Bethlehem Steel Company at its Steelton, Pa., plant.

### SIGNALING

**THE INDIANAPOLIS UNION RAILWAY COMPANY** has contracted with the Union Switch & Signal Co. for the complete erection of various signaling installations on the Indianapolis Belt Line. The work covers: An electro-mechanical interlocking at P. & E. East Side junction; the remote control from this tower of the functions at Eleventh street, which includes three high voltage d.c. switch layouts and nine color light signals; complete traffic locking for reverse running over both main tracks from P. & E. East Side junction through Eleventh street junction to Pan Handle junction; the remote control of Prospect junction requiring nine high voltage d.c. switch layouts and nine color light signals from the Cleveland, Cincinnati, Chicago & St. Louis crossing tower, with two main track traffic locking for reverse running between these two points; and the change from double track to single track operation of the 17 existing highway cross-

ing installations, together with new color light block signals on the 2½ mile New York, Chicago & St. Louis connection trackage.

## Financial

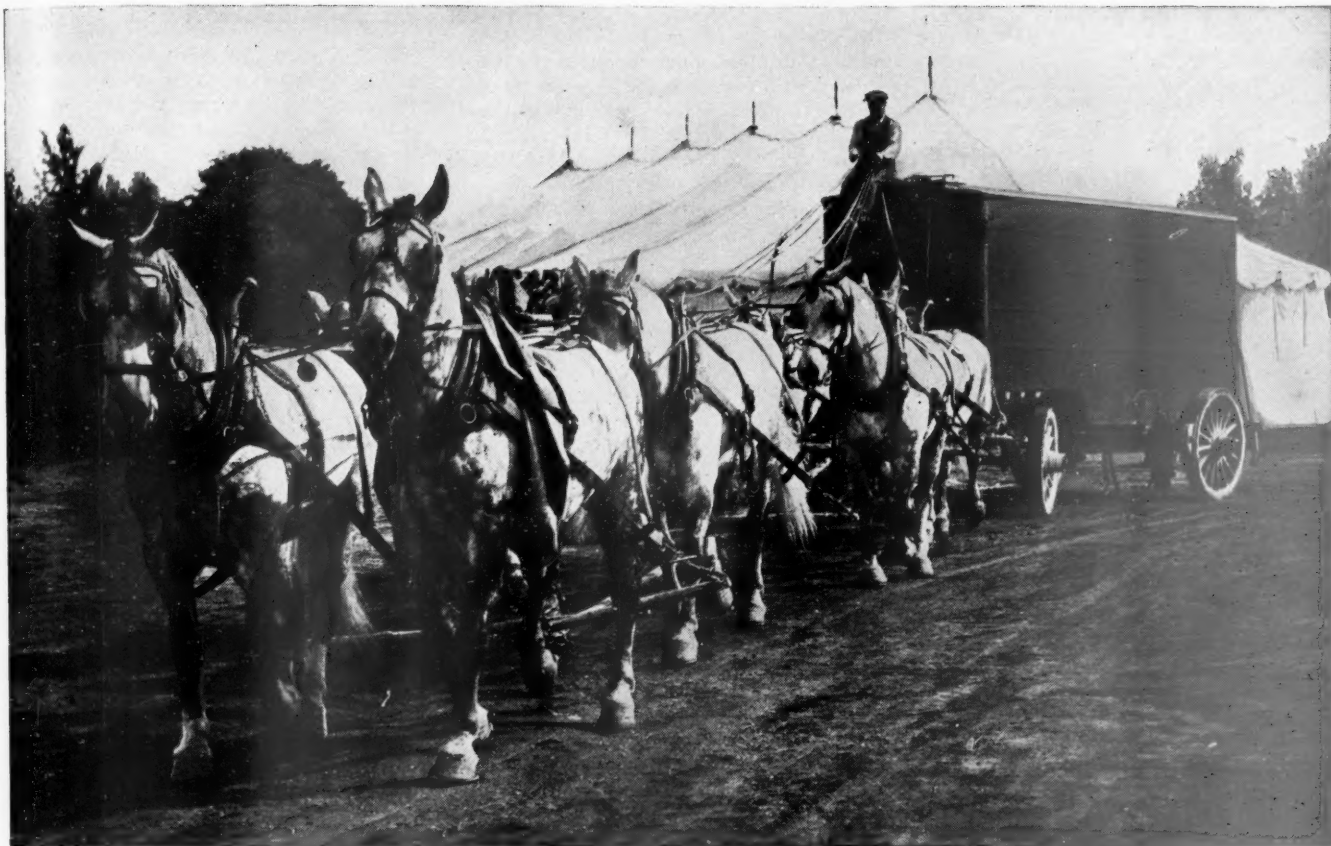
**ARIZONA & SWANSEA.**—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon as to interstate and foreign commerce its entire line extending from Bouse, Ariz., to Swansea, 21.1 miles.

**BUTTE, ANACONDA & PACIFIC.**—*Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue 25,000 shares of capital stock of \$100 par value.

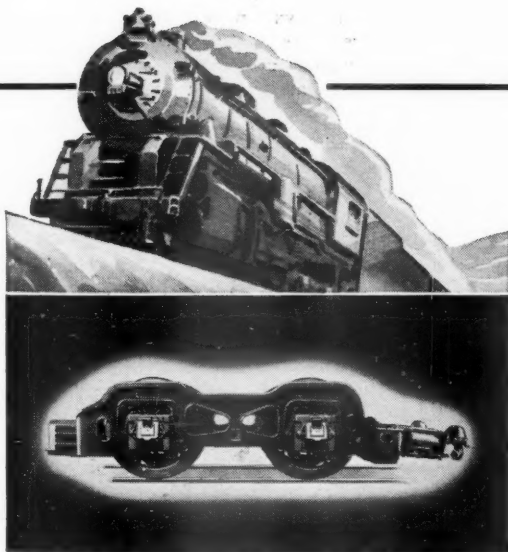
*Redemption of Bonds.*—This company has called for redemption on August 1, at 105 and accrued interest, its first mortgage 5 per cent sinking fund bonds due February 1, 1944.

**CHICAGO, ROCK ISLAND & PACIFIC.**—*Refunding Plan.*—A petition of the Chicago, Rock Island & Pacific for an order authorizing trustees of the road to refund \$29,716,800 of outstanding equipment trust certificates with a blanket issue of the same amount, bearing 3½ per cent interest, was taken under advisement by Federal Judge James H. Wilkerson at Chicago on June 10. The average interest rate on existing certificates is 4.6 per cent. The holders of the equipment trust issues, according to the chairman of the committee for these holders, favor refunding of outstanding issues on the basis proposed, including a provision for accelerating payment on the principal. The latter has been objected to by certain mortgage and bond holders. In support of the acceleration proposal for a maximum of \$500,000 annually to apply against retirement of the new issue, E. M. Durham, chief executive of the road, said that this feature was deemed necessary by financial advisers to make the issue attractive. He said the acceleration fund would be derived from 10 per cent of annual revenues.

**HOUSTON BELT & TERMINAL.**—*Bonds.*—The Interstate Commerce Commission, Division 4, has authorized this company to issue \$3,600,000 of first mortgage 3½ per cent bonds, to be sold at par and the proceeds applied to the payment at maturity on July 1, of a like amount of its first mortgage 30-year 5 per cent bonds. The commission has also authorized the Gulf, Colorado & Santa Fe; the Burlington-Rock Island; and Guy A. Thompson, trustee of the St. Louis, Brownsville & Mexico and of the Beaumont, Sour Lake & Western to assume liability in respect of interest and sinking-fund payments on the bonds, pursuant to an operating agreement and a stock trust agreement dated July 1, 1907, and the respective proposed supplement and amendment to be dated July 1. The bonds will mature July 1, 1967, and the mortgage provides for the establishment of a sinking



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fund into which the terminal company will pay \$50,000 on June 1 in each of the years from 1938 to 1967.

**MISSOURI PACIFIC.—Lease.**—This company and Guy A. Thompson, its trustee, have applied to the Interstate Commerce Commission for authority to lease the properties of the Kiowa, Hardtner & Pacific.

**NEW YORK, NEW HAVEN & HARTFORD.—Reorganization.**—The Interstate Commerce Commission, Division 4, has announced that the proceedings in the reorganization of this company will be set down for public hearing before Commissioner Charles D. Mahaffie and Examiner Harvey H. Wilkinson in Washington, D. C. on July 20. Meantime, the stockholders of the Old Colony Railroad (N. H. leased line) have announced their dissatisfaction with the plan of reorganization and their determination to contest it.

**NEW YORK, NEW HAVEN & HARTFORD.—Abandonment.**—The Interstate Commerce Commission, Division 4, has authorized the trustees of this company to abandon operation and the trustees of the Old Colony to abandon the following lines: From East Warren Station, R. I., to Fall River, Mass., 6.34 miles; from Randolph Station, Mass., to Stoughton Junction, 5 miles; from Elmwood Station, Mass., to Stanley Station, 1.15 miles; from Whitman Station, Mass., to East Bridgewater Station, 3.31 miles; and from Plymouth Station, Mass., to North Carver Station, 7.42 miles. The commission has deferred action on the proposed abandonment of the lines from Matfield Station, Mass., to Eastondale Station, 4.55 miles, and from West Hanover Station, Mass., to Hanover, 4.9 miles.

**NORFOLK SOUTHERN.—Abandonment.**—Examiner J. S. Prichard of the Interstate Commerce Commission, in a proposed report to the commission, has recommended that the receivers be permitted to abandon that portion of a branch line known as the Belhaven branch, extending from Mackeys, N. C., to Bishop Cross, 23.2 miles.

**PENNSYLVANIA.—Dividend.**—Directors of this company have declared a dividend of 50 cents on the company's \$50-par capital stock. Last year two dividends of \$1 each were paid, but the directors decided upon a conservative policy until the end of the year "when the results of the full year's operations, and the effects upon the company's earnings of (1) 'excess crew' laws enacted in the various states the company serves, (2) wage and rate problems, (3) other legislation and taxation, and (4) general business conditions can be more definitely ascertained."

**READER.—Reorganization.**—The Interstate Commerce Commission, Division 4, has certified to the United States District Court for the Western District of Arkansas, the results of the balloting on this company's reorganization plan which are as follows: the holder of the sole claim filed in Class III and the holders of 1,605 shares of the company's capital stock, or 99.94 per cent voted to accept the plan.

**SPOKANE INTERNATIONAL — Proposed**

**Plan of Reorganization.**—The Bureau of Finance of the Interstate Commerce Commission, in a proposed report to the commission, has recommended that its plan of reorganization of this company and the Coeur d'Alene & Pend d'Oreille be approved by the commission. Under the proposed plan the total capitalization of both companies, excluding the common stock to be authorized but not issued in connection with the reorganization, would be approximately \$4,641,100, and the annual dividend requirement on the preferred stock would be \$113,855.

**WICHITA FALLS & SOUTHERN RAILWAY.—Bonds.**—This company has applied to the Interstate Commerce Commission for authority to extend the maturity date of \$729,000 of first mortgage 5 per cent gold bonds for 10 years from January 1, 1938. The Wichita Falls & Southern Railroad has asked authority to guarantee payment of the principal and interest of these bonds on the extended maturity date.

**WISCONSIN CENTRAL.—Equipment Trust Certificates.**—The Interstate Commerce Commission, Division 4, has authorized the receiver to assume liability for \$1,200,000 of 3½ per cent equipment trust certificates, maturing in 20 equal semi-annual installments of \$60,000 on June 1 and December 1 of each year from December 1, 1937, to June 1, 1947. The issue was sold to the First National Bank & Trust Co. of Minneapolis at par plus a premium of \$200, making the average annual cost to the receiver approximately 3.497 per cent.

#### Average Prices of Stocks and Bonds

	June 15	Last week	Last year
Average price of 20 representative railway stocks..	52.60	55.18	47.99
Average price of 20 representative railway bonds..	80.69	80.46	80.10

#### Dividends Declared

Pennsylvania.—50c, payable July 22 to holders of record June 21.  
Providence & Worcester.—\$2.50, quarterly, payable July 3 to holders of record June 9.

## Railway Officers

### EXECUTIVE

**FREDERICK E. LYFORD**, assistant to vice-president of the Baldwin Locomotive Works, has been appointed trustee of the New York, Ontario & Western, subject to the approval of the Interstate Commerce Commission.

### FINANCIAL, LEGAL AND ACCOUNTING

**Herman Oberfeld**, assistant general auditor of the Southern Pacific of Mexico, has been appointed acting general auditor, with headquarters as before at Guadalajara, Jalisco, to succeed **W. C. Doudna**, **Enrique Laos** has been appointed acting assistant general auditor to replace Mr. Oberfeld.

## MECHANICAL

**J. J. Tatum**, general superintendent of the car department of the Baltimore & Ohio, has been appointed assistant chief of motive power and equipment, in charge of the car department, with headquarters at Baltimore, Md. **W. B. Whitsitt**, mechanical engineer, has been appointed assistant chief of motive power and equipment in charge of engineering and research work, with headquarters at Baltimore.

**A. G. Gebhard**, general foreman at the Markham (Chicago) roundhouse of the Illinois Central, has been promoted to master mechanic of the Louisiana division with headquarters at McComb, Miss., to succeed **J. N. Chapman**, who has been assigned to other duties. **P. O. Christy**, general foreman at Centralia, Ill., has been appointed assistant master mechanic at Markham, in which capacity he succeeds to the duties of Mr. Gebhard.

**Erle E. Sanford**, master mechanic on the Wabash at Montpelier, Ohio, whose promotion to assistant superintendent motive power of this company was reported in the *Railway Age* of June 12, has been identified with the Wabash for 34 years. He was born on October 26, 1885, at Chariton, Iowa, and received his education at the University of Missouri. He entered railway service with the Wabash in January, 1903, as an apprentice in the mechanical department at Stanberry, Mo., where he was later advanced to machinist, and then to general foreman. In 1920, Mr. Sanford was sent to Moberly, Mo., as roundhouse foreman, later being advanced to general foreman at the same point. In 1926 he was promoted to assistant master mechanic, which position he held until 1931, when he was further promoted to master mechanic at Ft. Wayne, Ind. In 1936, his office was moved to Montpelier, where he remained until his recent promotion to assistant superintendent motive power, with headquarters at Decatur, Ill.

## OPERATING

**Carl P. Lockwood**, who has been appointed superintendent of terminals of the Grand Trunk Western at Port Huron,



Carl P. Lockwood

Mich., as reported in the *Railway Age* of June 5, was born on May 21, 1882, at

## NO. 19 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



## RAPPAHANNOCK RIVER BRIDGE

This bridge is reinforced concrete, multiple arch, having a total length of 761 feet. There are five 90-ft. and five 40-ft. arch spans. The height of the track above mean tide is 55'6". The bridge was designed by Messrs. J. E. Greiner & Company, Consulting Engineers, Baltimore. Construction work was done under contract with the Whiting-Turner Construction Company and was supervised by E. M. Hastings, Chief Engineer, R. F. & P. Railroad Company. The work of constructing the bridge was started in Novem-

ber, 1925 and it was opened for traffic February 21st, 1927. This bridge carries two tracks, and replaced a single track steel bridge.

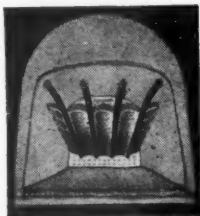
\* \* \*

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Salem, Mich. Mr. Lockwood attended Michigan State College and entered railway service on April 27, 1916, as a brakeman and yardman on the Grand Trunk Western. On August 2, 1932, he was appointed general chairman of the Brotherhood of Railroad Trainmen, with jurisdiction over the Grand Trunk Western and the Central region of the Canadian National. He resigned this position on May 25, to accept the appointment as superintendent of terminals at Port Huron.

**C. K. Scott**, who has been appointed superintendent of the Marion division of the Erie at Huntington, Ind., as reported in the *Railway Age* of June 12, has been in the service of this company for 24 years. He was born in 1889 at Kent, Ohio, and first entered railway service in 1913 with the Erie as a transitman in the engineering department at Huntington, being appointed assistant engineer at Cleveland, Ohio, in the following year and section foreman at Huntington in 1915. Subsequently he was promoted to track supervisor with headquarters at North Judson,



**C. K. Scott**

Ind., and thence to assistant division engineer at Meadville, Pa. Eventually Mr. Scott was promoted to division engineer, serving in this capacity at Marion, Ohio, and Youngstown. Next he was made trainmaster, which position he held at Scranton, Pa., and Attica, N. Y. For a time he served as assistant to the general manager at Jersey City, N. J., then returning to the position of trainmaster, in which capacity he served successively at Paterson, N. J., Kent, Ohio, and Youngstown. He was located at the latter point at the time of his recent appointment as superintendent.

**H. A. Hobson**, superintendent of the Buffalo division of the Pennsylvania, with headquarters at Buffalo, N. Y., has been appointed assistant to the general superintendent of the Lake division, with headquarters at Cleveland, Ohio. **E. S. Reed**, superintendent of passenger transportation of the Central region, with headquarters at Pittsburgh, succeeds Mr. Hobson as superintendent of the Buffalo division at Buffalo. **A. M. Seivard**, supervisor of passenger service of the New York zone, with headquarters at New York, has been appointed superintendent of passenger

transportation of the Central region at Pittsburgh, succeeding Mr. Reed. **A. L. Stewart**, chief clerk to the chief of pas-



**E. S. Reed**

senger transportation of the Pennsylvania system, with headquarters at Philadelphia, has been appointed supervisor of passenger service at New York, succeeding Mr. Seivard. **M. L. Long**, chief clerk of the Labor and Wage Bureau of the eastern region, with headquarters at Philadelphia, has been appointed assistant superintendent of the Bureau.

Mr. Reed was born on November 25, 1885, at East Brady, Pa. He first entered railway service on June 29, 1900, as a messenger on the Allegheny Valley railroad (now part of the Pennsylvania) at East Brady, subsequently serving as a car cleaner, night watchman, warehouseman, yard clerk and yardmaster. On April 1, 1910, he was appointed yardmaster on the Allegheny division of the Pennsylvania, at Driftwood, Pa., and then served successively as clerk and assistant trainmaster, assistant yardmaster, general yardmaster and assistant trainmaster until September 11, 1919, when he was appointed freight movement director in the general office. In the following year Mr. Reed was appointed assistant superintendent of freight transportation and on January 1, 1921, he was made assistant trainmaster. After serving in the latter position on various divisions he was advanced to trainmaster of the Akron division on June 7, 1928, later being transferred to the Buffalo division and then to the Panhandle division. He was appointed superintendent of the Erie & Ashtabula division, with headquarters at New Castle, Pa., in June, 1934, and on November 16, 1934, he became superintendent of passenger transportation of the Central region at Pittsburgh, the position he held until his recent appointment as superintendent of the Buffalo division.

## TRAFFIC

**W. H. Bachmann**, traveling freight agent for the Wabash at Cincinnati, Ohio, has been promoted to general agent, freight department, with the same headquarters, to succeed **J. D. Lund**, deceased.

**E. C. Patton**, traveling freight agent for the Louisville & Nashville at Detroit,

Mich., has been promoted to general agent with the same headquarters, to succeed **J. K. Williams**, whose appointment as foreign freight agent with headquarters at Louisville, Ky., was reported in the *Railway Age* of May 8.

**F. H. Baird**, general passenger agent of the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Cincinnati, Ohio, has been promoted to the newly-created position of assistant passenger traffic manager of the New York Central System with headquarters at Chicago. Mr. Baird's activities will extend to all lines of the system west of Buffalo, N. Y. **J. P. Corcoran**, assistant general passenger agent of the Big Four at St. Louis, Mo., has been promoted to general passenger agent at Cincinnati, to succeed Mr. Baird. **A. W. Foellger**, general passenger agent of the Michigan Central (part of the New York Central System) at Chicago, has been promoted to general passenger agent of the system with the same headquarters. **R. B. Holmes**, assistant general passenger agent of the Michigan Central at Detroit, Mich., has been transferred to Chicago with activities extending over system lines. **W. E. Frackelton**, general agent in the passenger department of the system at Detroit, has been promoted to assistant general passenger agent at the same point to replace Mr. Holmes, and has been succeeded by **A. V. Ulrich**, special passenger representative at Detroit. **R. R. Spangenberg**, general agent in the passenger department of the system at Dallas, Tex., has been promoted to assistant general passenger agent of the Big Four at St. Louis, to succeed Mr. Corcoran. **K. N. Taylor**, traveling passenger agent for the system at Kansas City, Mo., has been appointed general agent in the passenger department at Oklahoma City, Okla., to succeed **J. A. Slater**, who has been transferred to Dallas to replace Mr. Spangenberg. **T. P. Hegler**, traveling passenger agent at Chicago, has been appointed general agent in the passenger department at Seattle, Wash., to succeed **T. E. Nerland**, who has been appointed district passenger agent at Chicago. These appointments will become effective on July 1.

**Tracy L. Bothwell**, assistant general freight agent of the Gulf, Colorado & Santa Fe, who has been promoted to assistant freight traffic manager of the Atchison, Topeka & Santa Fe at Chicago, as reported in the *Railway Age* of May 29, was born on October 12, 1888, at Tyler, Tex. Mr. Bothwell first entered railroad service with the St. Louis Southwestern of Texas in 1904, serving in the freight traffic department of this road until 1910, subsequently being appointed cashier in the treasurer's office. Eventually Mr. Bothwell became connected with the Southwestern Freight Bureau at St. Louis. In 1913 he entered the service of the Panhandle & Santa Fe (part of the Santa Fe system) as a rate clerk, remaining with this company for about a year. During the following four or five years Mr. Bothwell served in the traffic departments of various other railroads as a rate clerk and chief clerk. In 1919 he became connected



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Hp. of Type "E" Superheater Equipped Locomotive

Hp. of Type "A"  
Superheater  
Equipped  
Locomotive

This increase in horsepower can be obtained when a locomotive is equipped with an Elesco Type "E", rather than a Type "A" superheater.

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with the Dallas District Freight Traffic committee of the United States Railroad Administration, with which committee he held the positions of examiner and chief examiner. In July, 1920, he entered the



**Tracy L. Bothwell**

service of the Gulf, Colorado & Santa Fe as chief clerk in the freight department at Galveston. On May 1, 1923, he was promoted to assistant general freight agent, with the same headquarters, the position he held until his recent appointment as assistant freight traffic manager of the Santa Fe at Chicago.

**Henry E. Poulterer**, whose appointment as freight traffic manager of the Western Pacific was reported in the *Railway Age* of June 12, has a record of 32 years of practically continuous railroad service. He was born at Portland, Ore., in 1888, and obtained his first railway experience in 1905, as a messenger on the Great Northern. In the following year he became connected with the general freight office of the Union Pacific at Portland. In 1912 he was promoted to contracting



**Henry E. Poulterer**

freight agent with this company and in 1918 he was further advanced to traveling freight agent. In May, 1920, Mr. Poulterer became associated with the joint traffic department of the Port and Dock Commissions of Portland, returning to the Union Pacific six months later as chief clerk to the assistant freight traffic man-

ager at Omaha. In 1925 he was promoted to general agent in the freight department of the Union Pacific at Kansas City, Mo., and two years later he was made assistant general freight agent at Omaha. In 1931 he severed his connection with the Union Pacific to become assistant freight traffic manager of the Western Pacific, with headquarters at San Francisco, Cal., the position he was holding at the time of his recent promotion to freight traffic manager.

**F. Arthur Young**, assistant general passenger agent of the Pere Marquette, whose appointment as general passenger agent with headquarters as before at Detroit, Mich., was reported in the *Railway Age* of June 12, has been in the service of this company and a predecessor line for nearly 40 years. He was born on July 5, 1880, at Millington, Mich., and first entered railway service on March 4, 1898, as a relief agent with the Detroit, Lansing & Northern (now the Pere Marquette). On October 10 of the same year he was appointed agent at Merrill, Mich., which

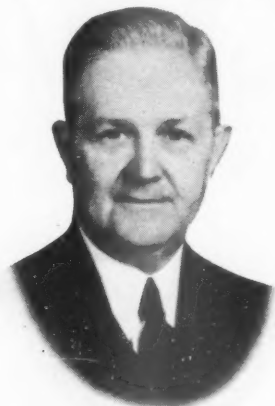


**F. Arthur Young**

position he held until May 1, 1901, when he was sent to Milwaukee, Wis., as ticket clerk in the city ticket office. Later Mr. Young served as a ticket seller at Saginaw, Mich., and as a ticket agent at Bay City, Mich. On December 1, 1910, he was advanced to division passenger agent at Saginaw, holding this position for nine years, at the end of which period he was appointed general agent in the passenger department at Detroit. On June 1, 1936, he was further promoted to assistant general passenger agent at Detroit, which position he held until his recent appointment as general passenger agent.

**G. L. Goin**, assistant general freight agent for the Atchison, Topeka & Santa Fe at San Francisco, Cal., whose promotion to general freight agent with the same headquarters was reported in the *Railway Age* of June 12, was born on November 11, 1882, at Woodland, Cal. After leaving school Mr. Goin entered the U. S. Marine Corps in March, 1903, and was honorably discharged as gunnery sergeant in March, 1907. Shortly thereafter he joined the Trans-Continental Freight Bureau at San Francisco, where he re-

mained for about two years. At the end of this period he entered the service of the Santa Fe as a junior rate clerk in the freight traffic department at San Francisco, in the office of the assistant freight



**G. L. Goin**

traffic manager. On September 1, 1909, he obtained a leave of absence and re-entered the service of the Trans-Continental Freight Bureau as chief clerk, returning to the Santa Fe on August 26, 1911, as chief rate clerk in the freight traffic department at San Francisco. On June 1, 1913, he was promoted to chief clerk in the same office, which position he held until March 1, 1920, when he was advanced to assistant general freight agent. He remained in this position until his recent promotion to general freight agent.

**R. G. McNeillie**, assistant passenger traffic manager of the Canadian Pacific, has been appointed passenger traffic manager, with headquarters at Montreal, Que., succeeding **C. B. Foster**, who will retire under the pension rules of the company on June 30, after more than 46 years of service.

Mr. McNeillie was born at Lindsay, Ont., on July 1, 1883, and entered the service of the Canadian Pacific in October, 1901, as a stenographer in the general passenger department at Winnipeg. He was promoted to district passenger agent



**R. G. McNeillie**

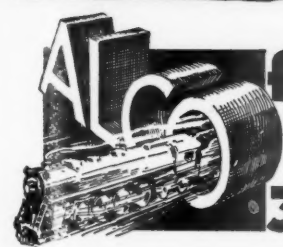
at Nelson, B. C., in October, 1909, and remained there until April, 1910, when he was transferred in a similar capacity to Calgary, Alta. On July 1, 1913, he was

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advanced to the position of assistant general passenger agent at Winnipeg, and in 1922 he was promoted to general passenger agent. He became assistant passenger traffic manager at Montreal in 1930, serving there until his present appointment.

Mr. Foster was born at Kingston, N. B., on September 30, 1871, and entered the service of the Canadian Pacific as a clerk in the district passenger agent's office at St. John, in 1891. He became district passenger agent at St. John in 1902, and at Toronto, Ont., in 1904. He became assistant general passenger agent at Vancouver in 1908 and general passenger agent at Winnipeg in 1910. In 1913 he was appointed assistant passenger traffic man-



C. B. Foster

ager at Montreal, succeeding to the post of passenger traffic manager in 1922.

## ENGINEERING AND SIGNALING

J. M. Miller has been appointed division engineer of the Elkins division of the Western Maryland, with headquarters at Cumberland, Md., succeeding **Rex Hoop**, who has been assigned to other duties, on account of physical disability.

S. C. Jump, supervisor of track on the Illinois Central, with headquarters at Clinton, Ill., has been promoted to division engineer of the Vicksburg division, with headquarters at Vicksburg, Miss., to succeed **C. J. Carney**, who has been transferred to the Kentucky division, with headquarters at Paducah, Ky., replacing **C. M. Chumley**, whose promotion to district engineer at New Orleans, La., was reported in the *Railway Age* of June 12. In connection with the announcement of Mr. Chumley's appointment it was incorrectly reported that Mr. Jump had been appointed division engineer of the Kentucky division.

M. W. Beach, assistant district engineer of the Northern Pacific, has been appointed acting engineer of bridges, with headquarters at St. Paul, Minn., to succeed **M. F. Clements**, whose death is noted elsewhere in these columns.

E. J. Cullen, who has been promoted to chief engineer of the Lehigh Valley, with headquarters at Bethlehem, Pa., as reported in the *Railway Age* of June 5, was born at Jersey City, N. J., on March 12,

1891, and entered railroad service in 1907 as a clerk on the Erie. He entered the service of the Lehigh Valley in 1912 as an extra gang foreman, and after holding various positions and serving as a levelman, transitman and supervisor of track, he was promoted to division engineer at Auburn, N. Y., in 1920. In 1926 he was transferred to Sayre, Pa., as division engineer of what was then the Seneca division. In March, 1927, he was transferred to the Buffalo division as division engineer, and in 1932 when the Seneca and the Auburn divisions were merged with the Buffalo division, Mr. Cullen was appointed division engineer of the enlarged division, which position he has held until his recent promotion.

G. T. Hand, who retired from active service as chief engineer of the Lehigh Valley on June 1, to become consulting engineer, as reported in the *Railway Age* of June 5, was born in Elizabeth, N. J., and began railway work in 1889 as a rodman on the National Docks Railway, now a part of the Lehigh Valley. He was principal assistant engineer of the same road from 1895 to 1900 in charge of the construction of the railroad, docks and warehouses, including the present terminal of the Lehigh Valley at National Docks, Jersey City. Mr. Hand went with the Delaware, Lackawanna & Western in 1900 as assistant engineer. His work in this capacity consisted primarily of laying out and reconstructing the Hoboken passenger and freight terminals. In 1909 he was appointed terminal engineer of the Lackawanna in charge of maintenance and construction of buildings, docks, and bridges. From 1911 to 1917 he was division engineer of the Morris and Essex division in charge of maintenance and construction of buildings. Mr. Hand was appointed chief engineer of the Lehigh Valley on May 1, 1917, with headquarters in New York City. In addition to his official railway connections he has served in a consulting capacity on many large and important projects in this country and abroad.

## SPECIAL

L. G. COLEMAN has been appointed director of the World's Fair Committee of the Eastern Presidents' Conference with office at 230 Park Avenue, New York.

## OBITUARY

A. C. Fonda, chairman of the Executive committee of the Texas-Louisiana freight bureau at Dallas, Tex., died on June 8 at the age of 76 years.

M. F. Clements, engineer of bridges of the Northern Pacific, with headquarters at St. Paul, Minn., died on June 8 following an eleven-months illness.

D. F. Lyons, who resigned recently as general counsel of the Northern Pacific because of ill health, died on June 12 at Tucson, Ariz. A native of Danvers, Mass., Mr. Lyons was born on February 15, 1880. He received his A.B. degree from Dartmouth college in 1902, and later studied

law at the University of Minnesota, where he obtained the degree of LL.B. in 1906. He had been connected with the Northern Pacific since 1911.

Johr. H. Bradbury, who retired in 1927 as comptroller of the Colorado & Southern and the Ft. Worth & Denver City, with headquarters at Denver, Colo., died on June 7 at San Diego, Cal., at the age of 71 years.

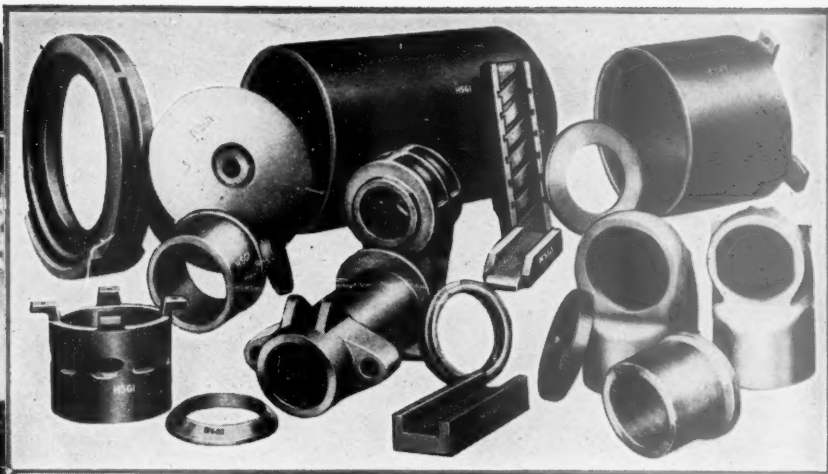
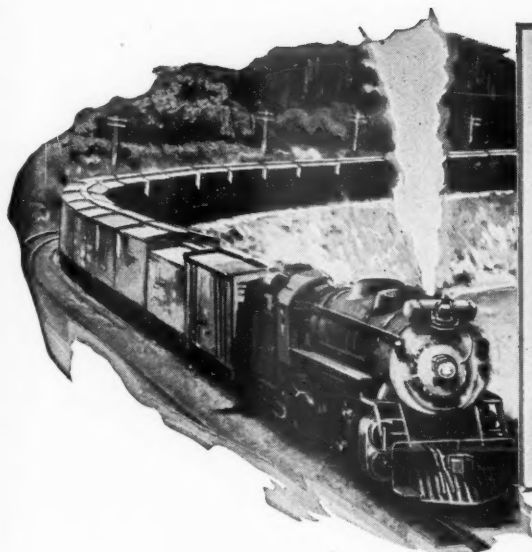
Randolph Daniels, until about six months ago assistant general passenger agent on the Missouri-Kansas-Texas at Dallas, Tex., died at the Baylor hospital at Dallas on June 10 after a long illness. It was because of ill health that Mr. Daniels relinquished the title of assistant general passenger agent, and at the time of his death he held the title of passenger representative.

William A. Russell, passenger traffic manager of the Louisville & Nashville, whose death on May 26 was noted in the *Railway Age* of June 5, was born on April 21, 1866, at Chicago. He first entered



William A. Russell

railway service in 1880 in the stationery supply department of the Iowa Central (now the Minneapolis & St. Louis). Mr. Russell continued in the service of this company in the car accountant's office and later in clerical capacities in the passenger department until 1889, when he joined the Chicago, St. Paul & Kansas City (now the Chicago Great Western), serving as chief rate clerk and chief clerk in the general passenger department. In 1891 he became connected with the Trans-Missouri Association as passenger tariff compiler, and in the following year he joined the St. Paul & Duluth (now part of the Northern Pacific) as assistant general passenger agent. From 1893 to 1897, he served as general passenger agent of the same road, then entering the service of the Illinois Central as chief clerk to the assistant general passenger agent at Louisville, Ky. Five years later Mr. Russell began his connection with the Louisville & Nashville, his first position being that of city passenger agent at Louisville. In 1903, he was appointed assistant general passenger agent and four years later he was made general passenger agent. He had served as passenger traffic manager since 1911.



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H S G I is recognized for its ability to keep locomotives on the road over longer periods at maximum sustained efficiency.

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# Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 138 Monthly Reports of Revenues and Expenses Representing 142 Class I Steam Railways

FOR THE MONTH OF APRIL, 1937 AND 1936

Item	United States		Eastern District		Southern District		Western District	
	1937	1936	1937	1936	1937	1936	1937	1936
Miles of road operated at close of month .....	236,093	236,819	58,379	58,654	44,780	44,939	132,934	133,226
Revenues:								
Freight .....	\$288,630,566	\$256,286,584	\$127,890,692	\$114,264,232	\$55,861,362	\$50,033,655	\$104,878,512	\$91,988,697
Passenger .....	33,732,858	30,652,270	18,632,721	17,760,734	5,228,568	4,295,362	9,871,569	8,596,174
Mail .....	8,235,660	7,747,445	3,139,050	2,964,435	1,463,203	1,390,235	3,633,407	3,392,775
Express .....	5,317,255	5,820,968	2,169,044	2,402,585	1,325,617	1,500,153	1,822,594	1,918,230
All other transportation..	7,491,145	6,687,056	3,930,324	3,535,981	826,309	677,312	2,734,512	2,473,763
Incidental .....	7,416,824	5,554,439	3,836,376	3,064,921	1,159,728	922,587	2,420,720	1,566,931
Joint facility—Cr. ....	1,064,354	860,370	310,036	260,113	213,634	189,543	540,684	410,714
Joint facility—Dr. ....	315,295	242,693	55,478	49,514	27,542	21,411	232,275	171,768
Railway operating revenues .....	351,573,367	313,366,439	159,852,765	144,203,487	66,050,879	58,987,436	125,669,723	110,175,516
Expenses:								
Maintenance of way and structures .....	42,125,920	36,294,158	16,035,742	13,696,672	7,206,540	6,677,235	18,883,638	15,920,251
Maintenance of equipment..	71,264,655	64,227,059	32,746,167	29,046,061	12,606,798	11,511,084	25,911,690	23,669,914
Traffic .....	8,772,812	8,090,833	3,264,738	2,972,126	1,640,829	1,594,721	3,867,245	3,523,986
Transportation .....	123,399,605	110,899,431	56,378,778	51,312,484	20,547,168	18,735,898	46,473,659	40,851,049
Miscellaneous operations..	3,205,615	2,681,602	1,469,080	1,240,974	457,879	382,715	1,278,656	1,057,913
General .....	13,599,124	13,082,169	5,958,084	5,767,108	2,338,261	2,217,704	5,302,779	5,097,357
Transportation for investment—Cr. ....	348,765	234,840	40,365	19,139	50,366	25,031	258,034	190,670
Railway operating expenses .....	262,018,966	235,040,412	115,812,224	104,016,286	44,747,109	41,094,326	101,459,633	89,929,800
Net revenue from railway operations .....	89,554,401	78,326,027	44,040,541	40,187,201	21,303,770	17,893,110	24,210,090	20,245,716
Railway tax accruals .....	30,734,480	25,796,690	13,221,813	11,120,215	6,702,873	5,127,384	10,809,794	9,549,091
Railway operating income .....	58,819,921	52,529,337	30,818,728	29,066,986	14,600,897	12,765,726	13,400,296	10,696,625
Equipment rents—Dr. balance .....	8,024,342	7,811,307	3,522,432	3,573,804	743,258	838,674	3,758,652	3,398,829
Joint facility rent—Dr. balance .....	2,988,133	3,224,575	1,682,263	1,746,000	296,760	383,264	1,009,110	1,095,311
Net railway operating income .....	\$47,807,446	\$41,493,455	25,614,033	23,747,182	13,560,879	11,543,788	8,632,534	6,202,485
Ratio of expenses to revenues (per cent) .....	74.53	75.00	72.45	72.13	67.75	69.67	80.74	81.62
Depreciation included in operating expenses .....	16,322,148	16,129,965	7,249,916	7,040,545	3,118,394	3,183,531	5,953,338	5,905,889
Total maintenance before depreciation .....	97,068,427	84,391,252	41,531,993	35,702,188	16,694,444	15,004,788	38,841,990	33,684,276
Net railway operating income before depreciation ....	64,129,594	57,623,420	32,863,949	30,787,727	16,679,773	14,727,319	14,585,872	12,108,374

## FOR FOUR MONTHS ENDED WITH APRIL, 1937 AND 1936

Average number of miles operated .....	236,121	236,876	58,393	58,675	44,798	44,948	132,930	133,253
Revenues:								
Freight .....	\$1,135,329,245	\$994,310,368	\$499,507,994	\$436,662,410	\$226,659,124	\$202,501,554	\$409,162,127	\$355,146,404
Passenger .....	139,141,970	127,172,369	75,569,396	72,740,000	23,200,570	19,847,696	40,372,004	34,584,673
Mail .....	31,748,995	30,363,452	12,142,304	11,604,829	5,633,625	5,480,769	13,973,066	13,277,854
Express .....	18,416,958	17,469,549	7,490,224	6,834,163	4,431,786	4,375,592	6,494,948	6,259,794
All other transportation..	28,694,411	26,458,676	14,747,847	13,877,174	3,116,356	2,722,633	10,830,208	9,858,869
Incidental .....	26,748,338	22,722,878	13,841,474	12,563,307	4,405,755	3,763,091	8,501,109	6,396,480
Joint facility—Cr. ....	3,791,583	3,545,369	1,234,418	1,099,709	786,111	724,142	1,771,054	1,721,518
Joint facility—Dr. ....	873,935	929,392	223,293	201,074	91,284	83,152	559,358	645,166
Railway operating revenues .....	1,382,997,565	1,221,113,269	624,310,364	555,180,518	268,142,043	239,332,325	490,545,158	426,600,426
Expenses:								
Maintenance of way and structures .....	147,060,248	133,289,102	59,512,133	53,571,015	28,579,366	25,897,367	58,968,749	53,820,720
Maintenance of equipment..	276,845,433	252,552,852	127,759,220	115,407,338	48,924,459	46,038,397	100,161,754	91,107,117
Traffic .....	34,320,252	31,938,271	12,655,086	11,784,404	6,692,692	6,477,790	14,972,474	13,676,077
Transportation .....	501,647,043	458,971,893	226,831,392	213,110,452	84,071,299	77,369,547	190,744,352	168,491,894
Miscellaneous operations..	13,194,252	11,139,635	5,903,960	5,230,867	2,059,917	1,669,187	5,230,375	4,239,581
General .....	54,090,415	52,165,541	23,603,303	22,949,664	9,346,729	8,892,792	21,140,383	20,323,085
Transportation for investment—Cr. ....	1,056,297	853,770	167,138	116,009	173,741	84,455	715,418	653,306
Railway operating expenses .....	1,026,101,346	939,203,524	456,097,956	421,937,731	179,500,721	166,260,625	390,502,669	351,005,168
Net revenue from railway operations .....	356,896,219	281,909,745	168,212,408	133,242,787	88,641,322	73,071,700	100,042,489	75,595,258
Railway tax accruals .....	119,652,292	94,557,412	50,670,710	39,035,821	26,493,479	19,995,453	42,488,103	35,526,138
Railway operating income .....	237,243,927	187,352,333	117,541,698	94,206,966	62,147,843	53,076,247	57,554,386	40,069,120
Equipment rents—Dr. balance .....	30,950,002	29,000,819	13,373,893	13,961,945	2,469,160	1,421,586	15,106,949	13,617,288
Joint facility rent—Dr. balance .....	12,311,835	12,414,711	6,971,990	6,922,658	1,192,268	1,331,398	4,147,577	4,160,655
Net railway operating income .....	\$193,982,090	\$145,936,803	97,195,815	73,322,363	58,486,415	50,323,263	38,299,860	22,291,177
Ratio of expenses to revenues (per cent) .....	74.19	76.91	73.06	76.00	66.94	69.47	79.61	82.28
Depreciation included in operating expenses .....	64,917,891	64,514,736	28,676,606	28,049,333	12,491,917	12,788,422	23,749,368	23,676,981
Total maintenance before depreciation .....	358,987,790	321,327,218	158,594,747	140,929,020	65,011,908	59,147,342	135,381,135	121,250,856
Net railway operating income before depreciation ....	258,899,981	210,451,539	125,872,421	101,371,696	70,978,332	63,111,685	62,049,228	45,968,158

\* Includes \$722,093 sleeping and parlor car surcharge.

† Includes charges to Railway Tax Accruals in the total amount of \$7,981,742 itemized as follows: \$3,232,442 for taxes under the requirements of the Social Security Act of 1935, and \$4,749,300 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

‡ Includes charges to Railway Tax Accruals in the total amount of \$5,379,462 itemized as follows: \$1,416,620 for taxes under the requirements of the Social Security Act of 1935, and \$3,962,842 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

§ Includes \$7,070 sleeping and parlor car surcharge.

¶ Includes \$3,248,000 sleeping and parlor car surcharge.

|| Includes charges to Railway Tax Accruals in the total amount of \$31,015,343 itemized as follows: \$12,722,497 for taxes under the requirements of the Social Security Act of 1935, and \$18,292,846 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

/ Includes charges to Railway Tax Accruals in the total amount of \$13,690,289 itemized as follows: \$5,710,665 for taxes under the requirements of the Social Security Act of 1935, and \$7,979,624 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.